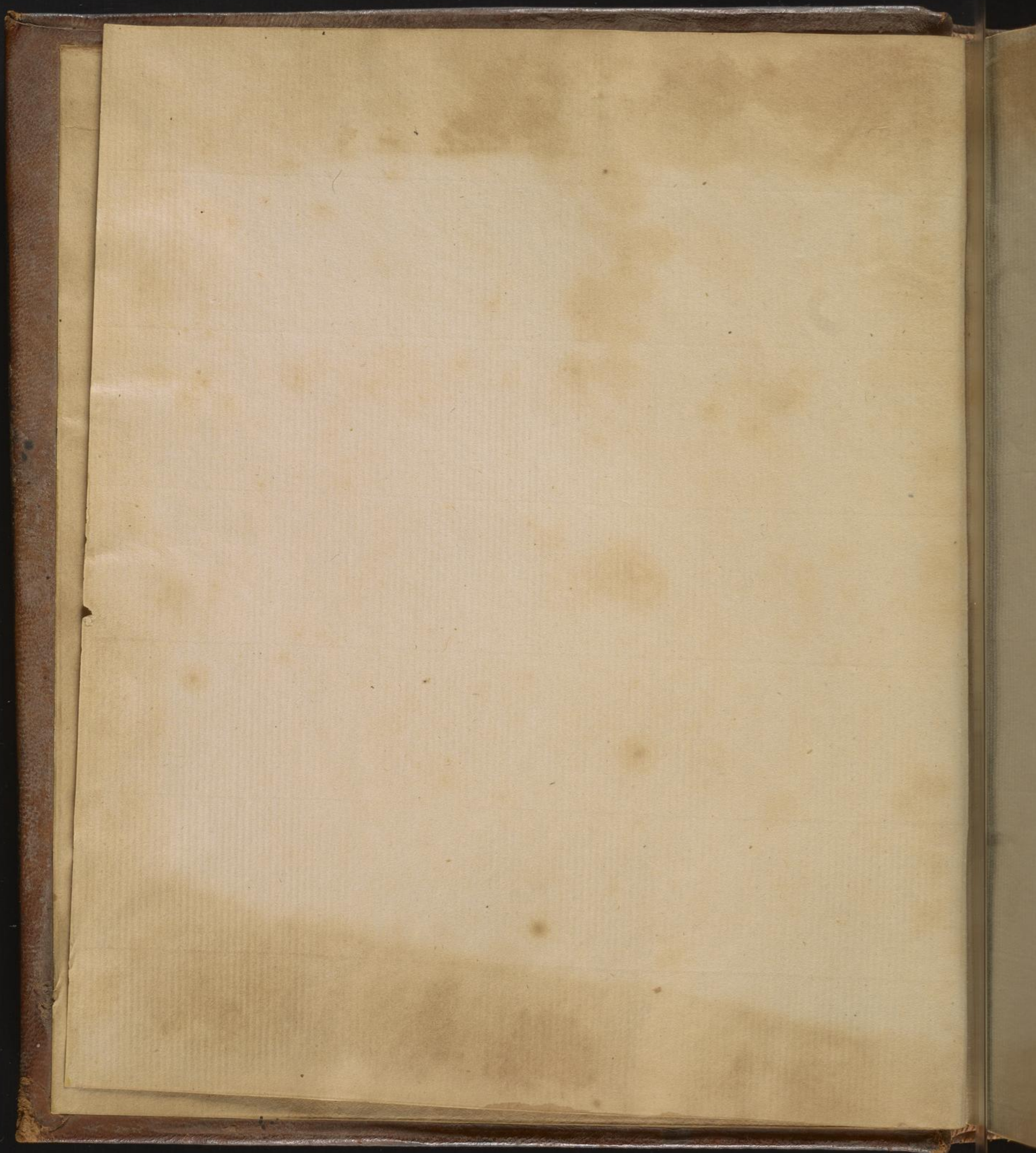
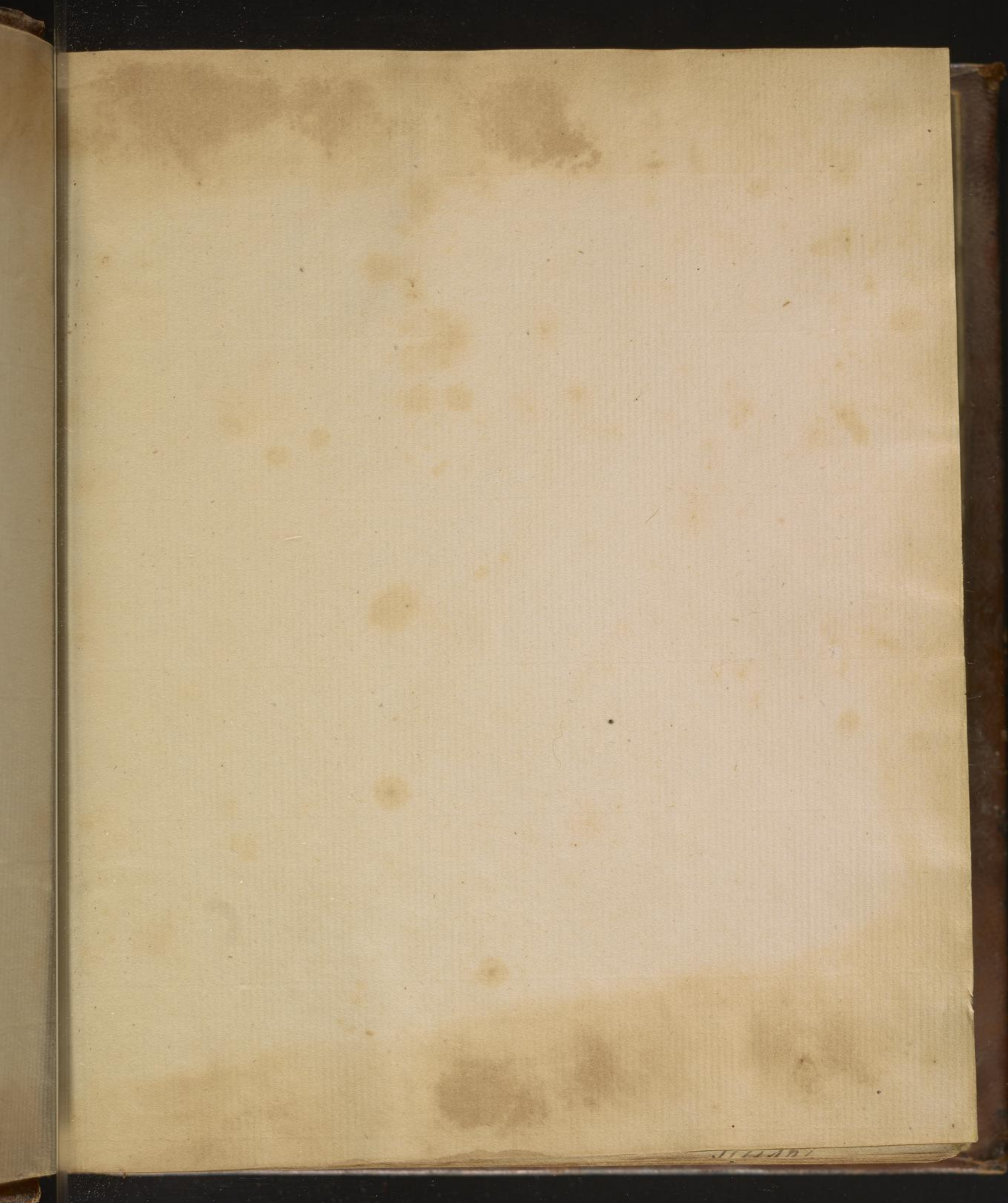
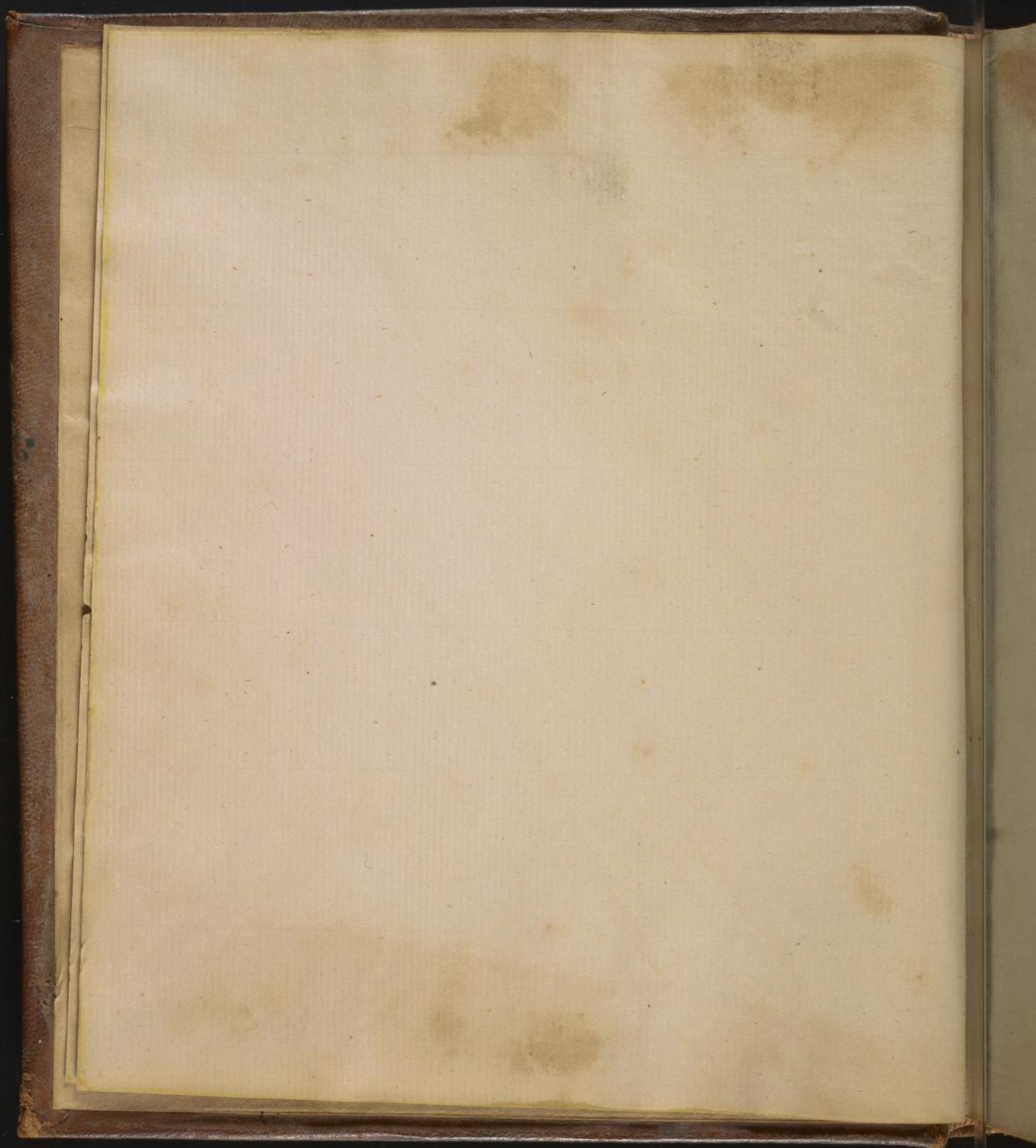


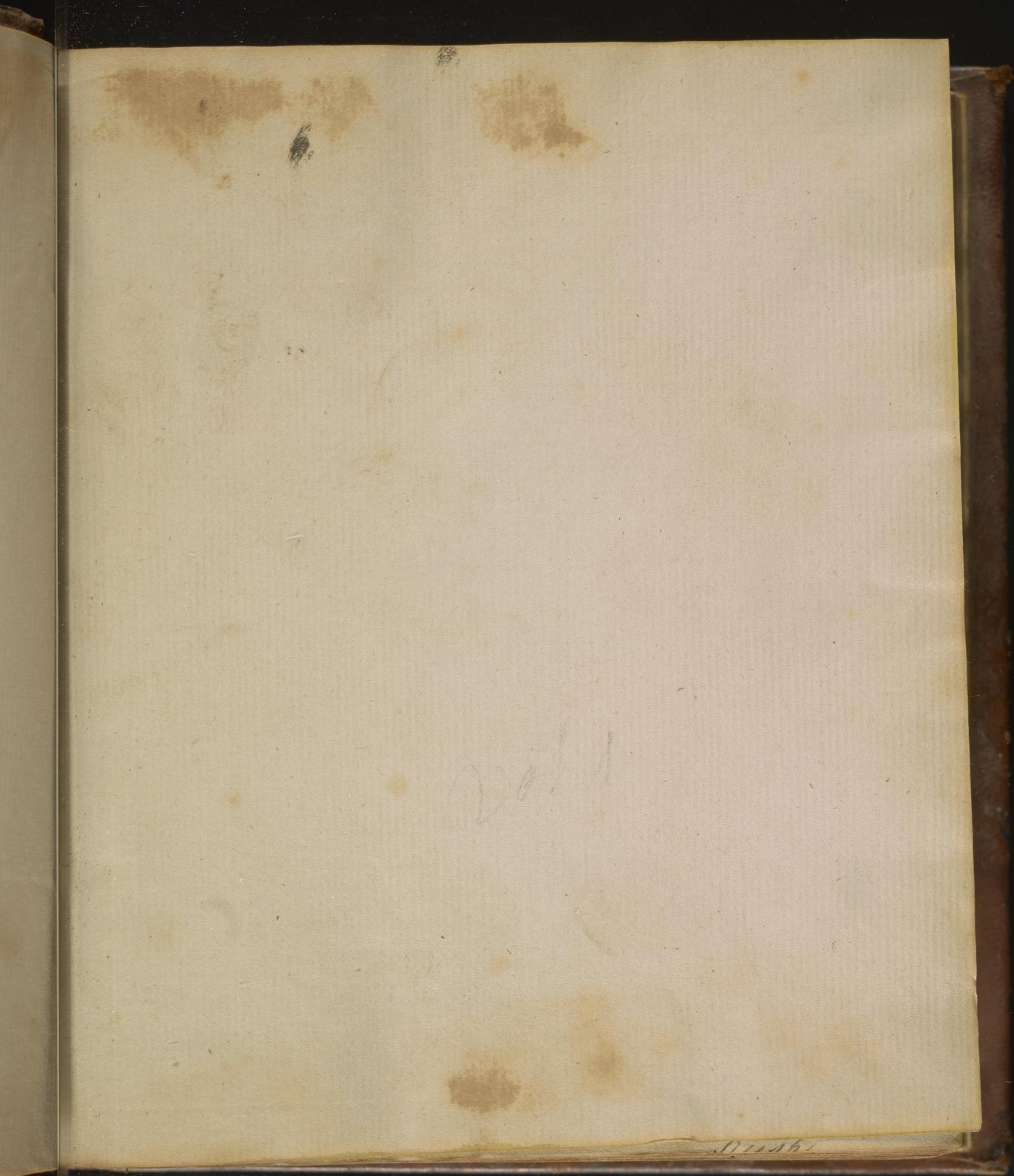
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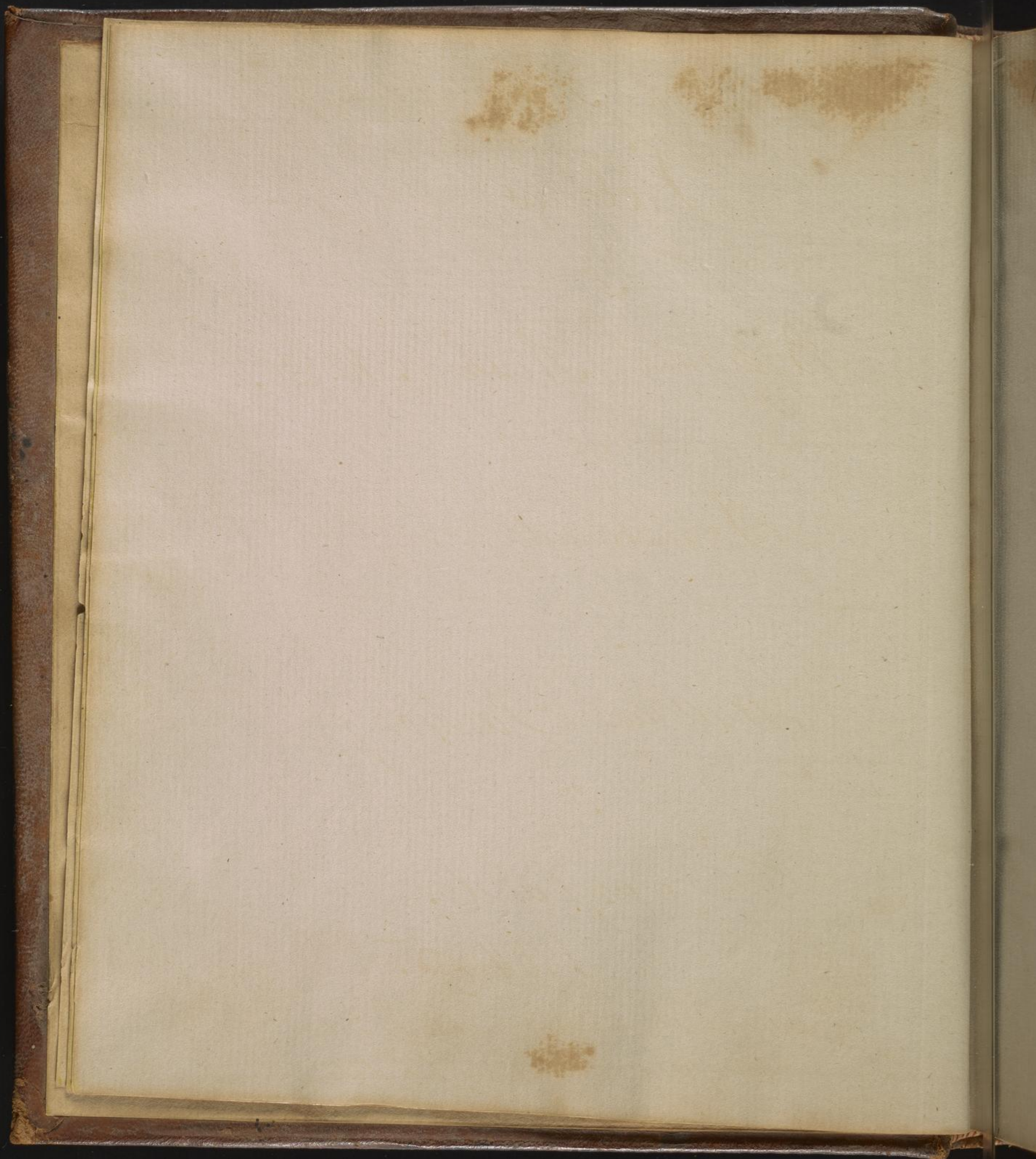
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University of Pennsylvania.

Lectures

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Benjamin Rush M.D.

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Transcribed

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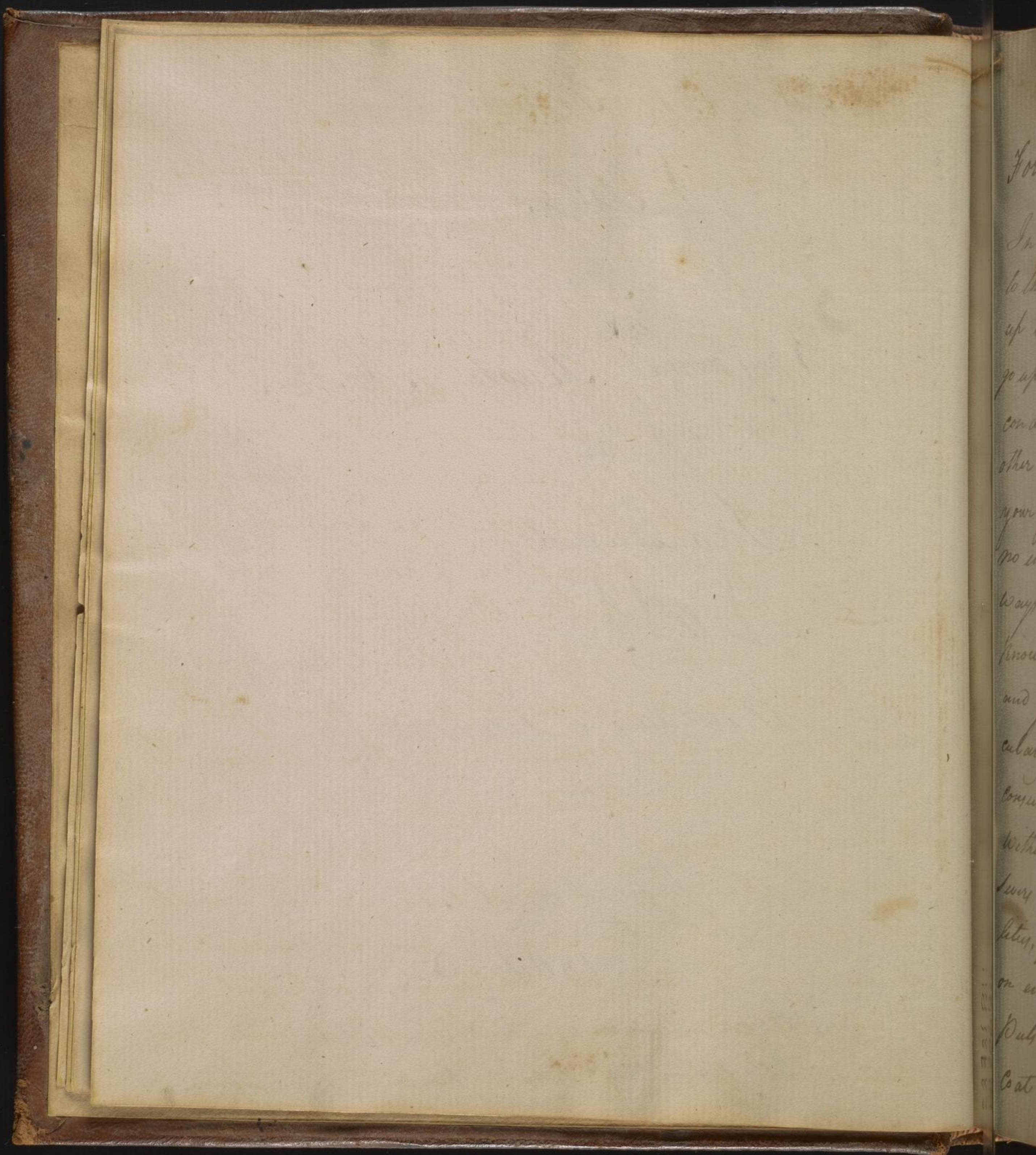
William Jackson Jr.

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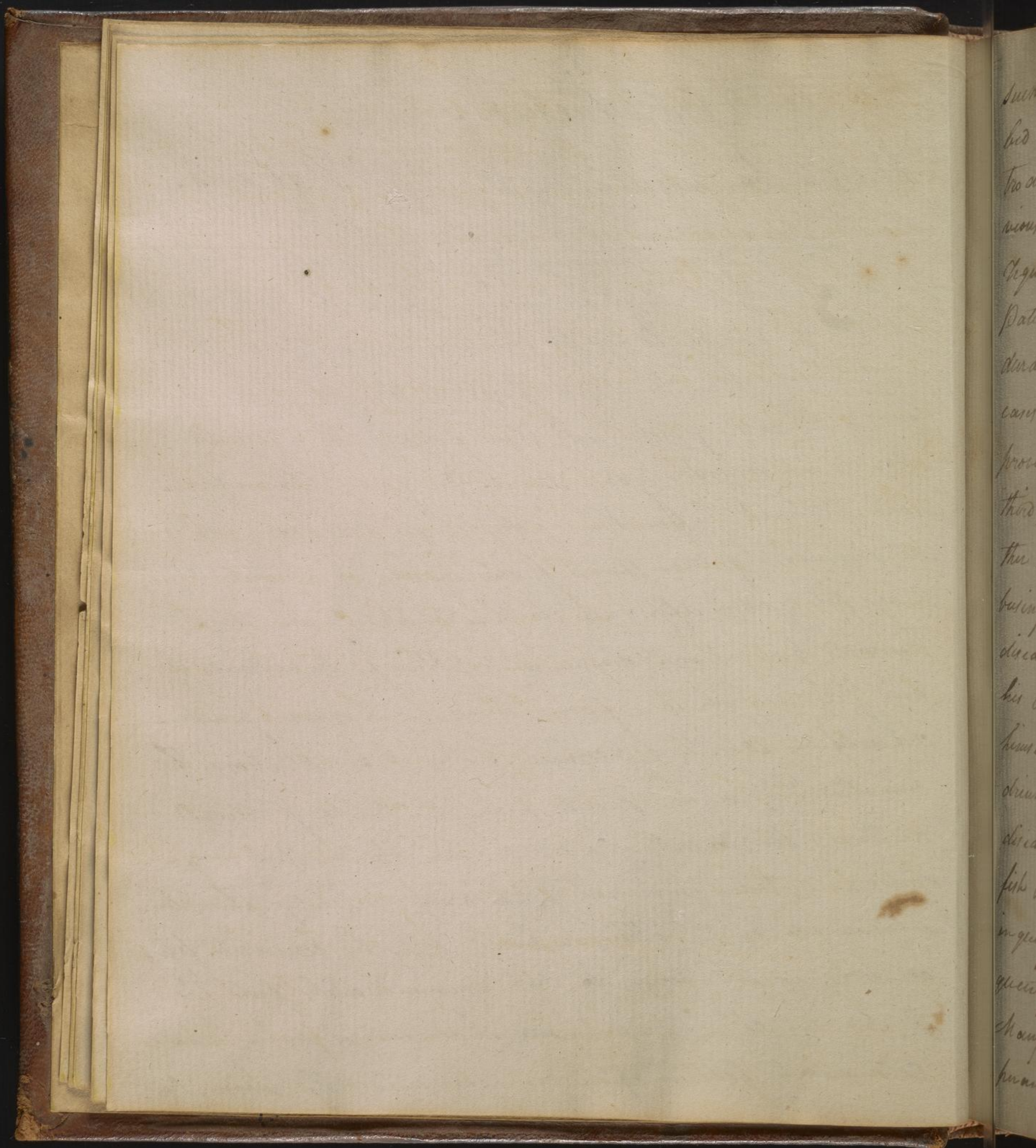
Adm. Medicina templum intret
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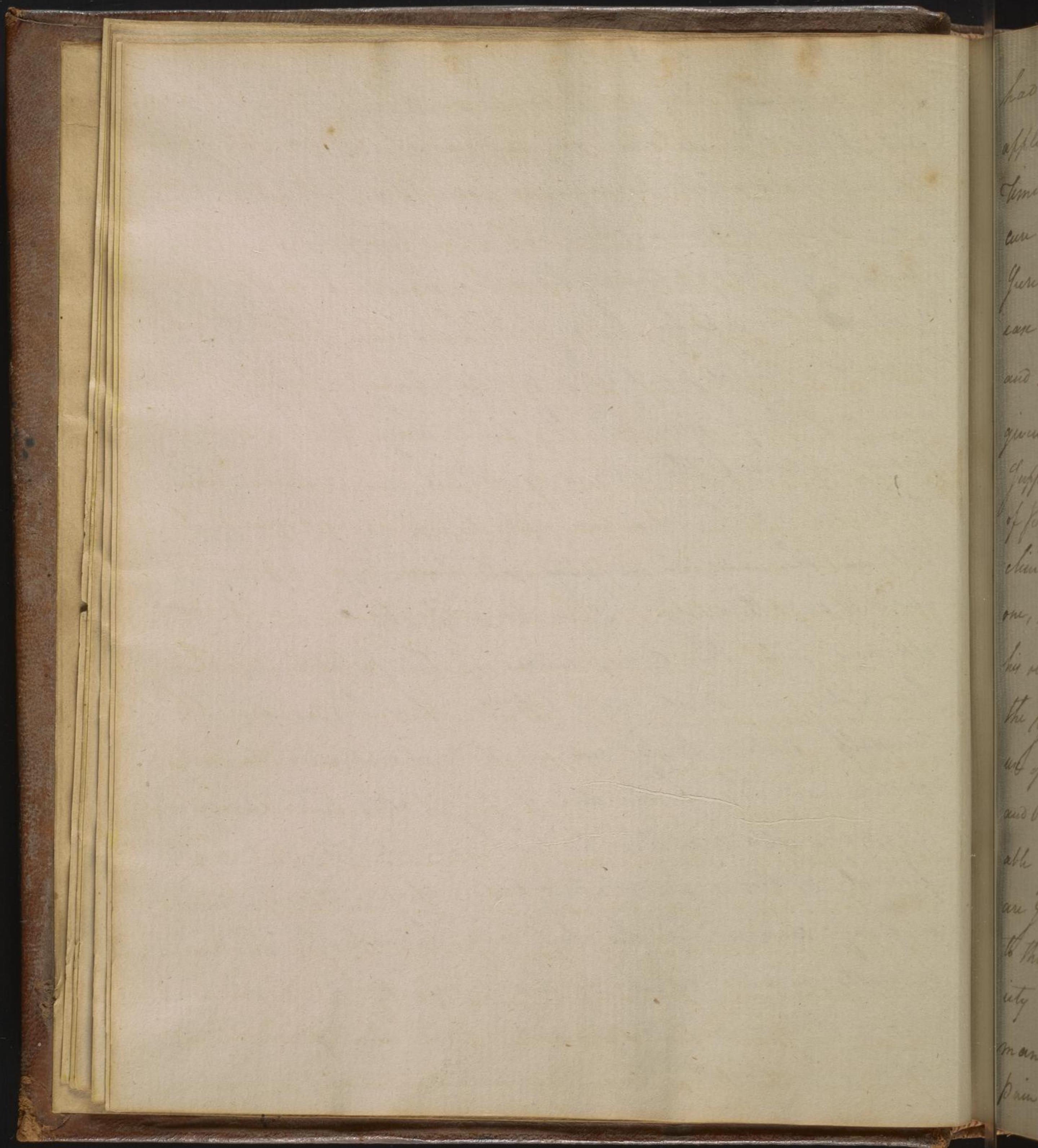
Introduction.

Forms to be observed in Visiting Patients.

In attending your Patients pay the greatest respect to the family and acquaintances; should the Patient be up stairs, and a Lady by chance, conducts you thither, go up before her, make a stop at the door, let the conductor enter first and then follow; at this and all other times uncover your head: On your return from your Patient suffer the Lady to go foremost, as then no indelicacy can arise from looking back. Always let your approach to the Patient be made known by certain signs, as walking, knocking, & sending in to inform them, and more particularly in visiting Women. In Consultations, the Consulting Physician should never visit the Patient without the Consulting one, because contradictory answers are often given in such cases, whereby the abilities, of one or the other, or both, may be censured. Upon entering the Room, do not immediately feel the Pulse, if cold, warm your hands; if your great Coat is wet, take it off before you enter the Room. On

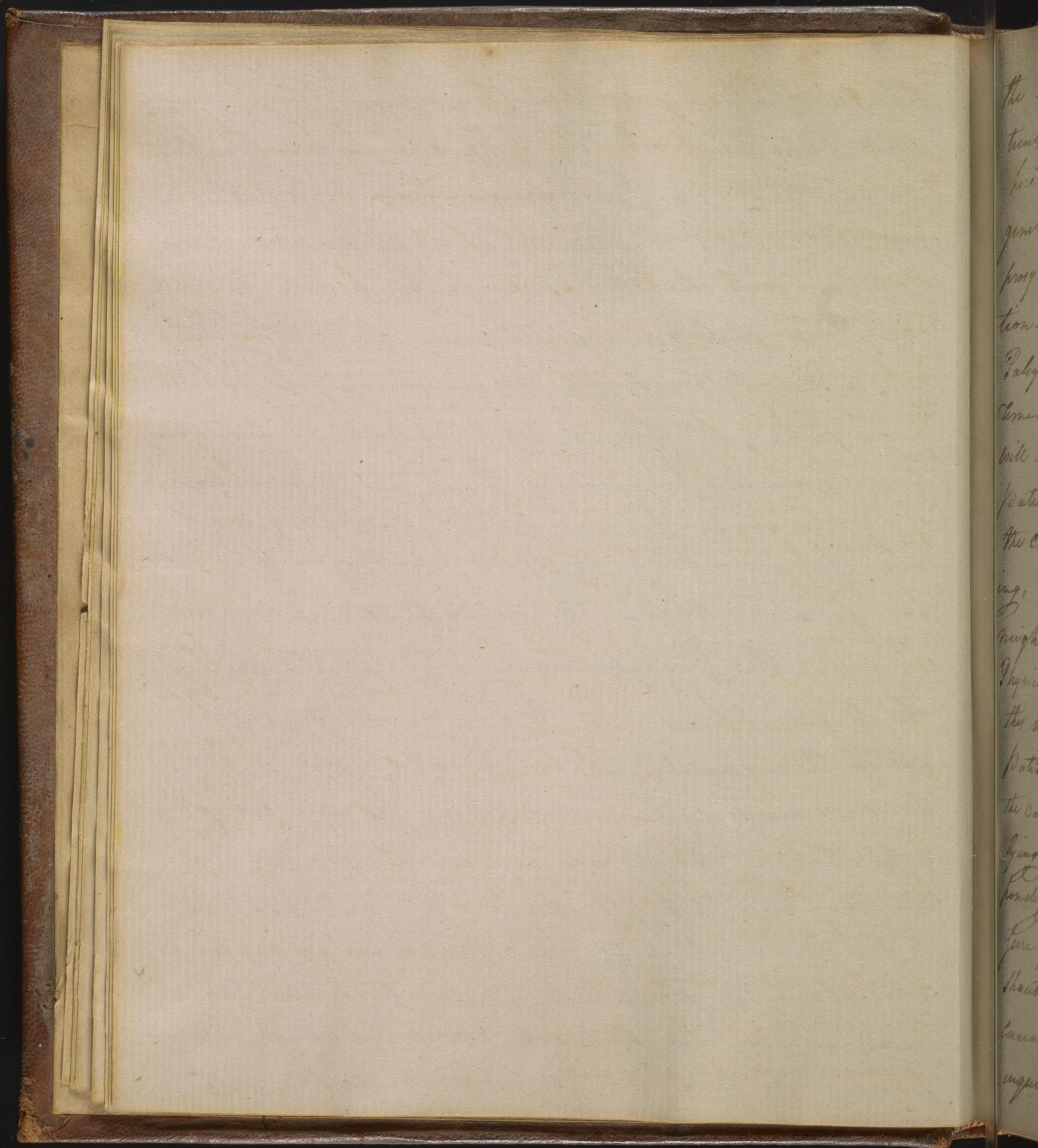


such occasions always take a seat on the patient's bed if there is no other convenient place; mind to introduce no subject foreign to your patient's case, previous to his examination, and not then unless at the request of the patient himself. Learn from your patient the whole history of the disease, and then its duration, this is particularly necessary, as some diseases admit of remedies the first day that would prove injurious the second and still more so on the third; in what manner and place attacked, whether in the day or night, at home or abroad, in business or otherwise. Search into the cause of the disease, into the occupation of the patient, into his diet, and drink, and whether he has confined himself lately to his usual diet and drinks, or new drinks and the first diet of vegetables often induce disease; also whether he has not ate long caught fish &c. as this is an exciting cause of disease. Make inquiry concerning his dress and bed-clothes, these frequently excite disease by being injudiciously changed. Many diseases are brought on in old age, from intemperance in youth. Enquire whether your patient has

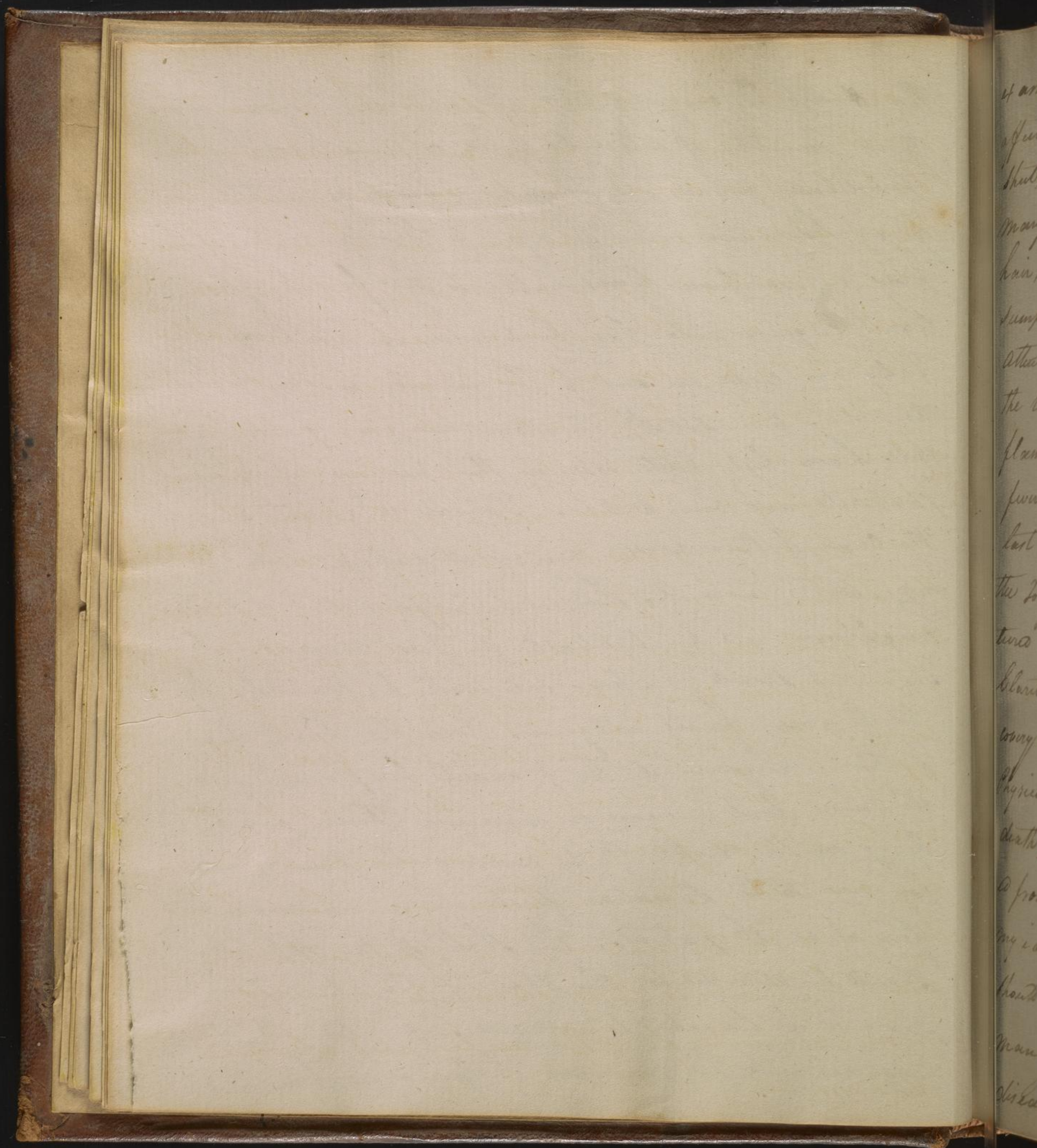


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had the same disease before, and what Remedies were
 applied, also what has been his former disease; The same
 Remedies that were prescribed for them will probably
 cure his present. Certain changes produced in the
 Functions will lead to a false judgment of the dis-
 ease, thus Stool given will render the stools black,
 and induce a belief of a Malignant fever; opium
 given frequently will bring on sickness at Stomach,
 suppression and profusion of Urine, and diminution
 of perspiration. Peculiar predisposition is acquired by
 climate, and when a person removes to a different
 one, he still retains the predisposition induced in
 his own; thus Pennsylvaniaans when affected with
 the Yellow Fever in the West Indies require the
 use of the Lament, which the inhabitants do not,
 and vice versa. The Catamenia produce consider-
 able effects, in the disease of Women. Swelled legs
 are sometimes brought on by Intermittents. Attend
 to the phraseology of your patients, for an anx-
 iety about the pericardiac, is called by an English-
 man a pain the Stomach; by a Scotchman, a
 pain in the Breast; and by an Irishman, a pain in



the Heart. Enquire into the diseases of your pa-
 tients ancestors, particularly in chronic cases, as some
 hereditary diseases are transmitted from generation to
 generation; also into the age of their ancestors. Le-
 prosy is sometimes transmitted to the fourth genera-
 tion. Enquire into family diseases, if Epilepsy and
 Palsy are cured in any of the family and by what
 remedies, but should the remedies have failed, you
 will have but little hope of the Recovery of your
 patient, and vice versa. Patients frequently conceal
 the cause of their disease, as excess in eating or drink-
 ing, debt, Love, &c, then enquire privately of their
 neighbours, and particularly of their enemies. A
 Physician should sometimes eat with his patients, by
 this he gains great intelligence. Know the habit of your
 patient. Enquire if the patient has pains, and
 the causes that increase or diminish them, as when
 lying on the right side increases the pain corres-
 ponding to the situation of the Liver, we may be
 sure of a Hepatitis. The state of the appetite
 should be attended to, the state of the alimentary
 canal, of sweat, urine, and sleep, also. Next
 enquire into the manner of lying in bed, and

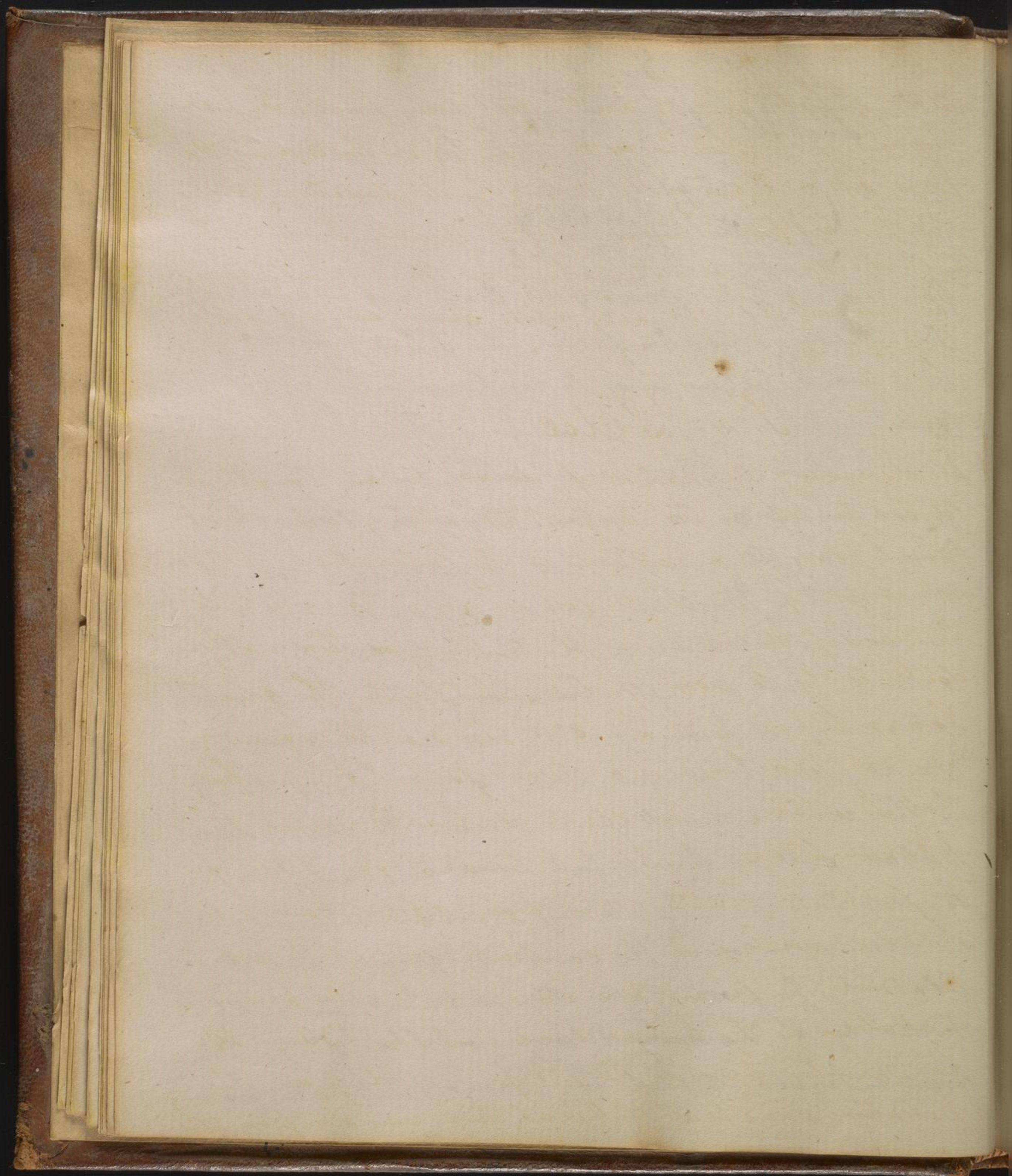


examine the countenance, should the patient be
 agitated with an acute disease and the windows be
 shut, have a candle, for the countenance exhibits
 many tokens. Examine his Eyes, and the colour of his
 hair, as red haired people are most subject to Con-
 sumption, and black haired people are irritable.
 Attend to Respiration and the State of the Skin, to
 the Voice, to the Tongue, as a white one indicates in-
 flammatory fever, dysentery, &c, a yellow one Bilious
 fever, a dry one Typhus, and a natural one the
 last stage of Yellow fever; but by the colour of
 the Tongue we are often deceived from its being tinc-
 tured with various substances, as Tobacco, Port and
 Claret wines, grapes &c, unless we examine for dis-
 covery. The Nails demand attention from the
 Physician, black ones indicate the approach of
 death, a more favourable termination is expec-
 ted from red. Thus Gentlemen, you have heard
 my ideas on this subject, and strict attention
 should be paid to these observations, in the
 management of both acute and chronic
 diseases. —

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Part the First. Of Physiology.

The Arteries possess muscular Coats and irritability, they receive Stimulus from the blood principally; in a word, Arteries may be compared to the Jewish Bells, by touching one you ring the whole; The Pulse is soft in Pneumonia Notha, owing to suffocated excitement in the system. When the Stomach or Bowels are inflamed, the Pulse is small, because the Vessels of those parts are small, and all the Vessels of the body sympathize with those affected. If the Pulse be full in inflammation of the joints or ophthalmia it is owing to the disease being communicated from the small Vessels to the larger, hence in the commencement of the disease, the Vessels do not pulsate full or tense; but the Arteries are sometimes so encumbered that they do not sympathize in the manner above mentioned. This caused, 1, from want of irritability, 2, from suffocated excitement, this is determined by the harmony occurring on blood-letting, 3, from a diseased state of the Radial Artery, 4, from



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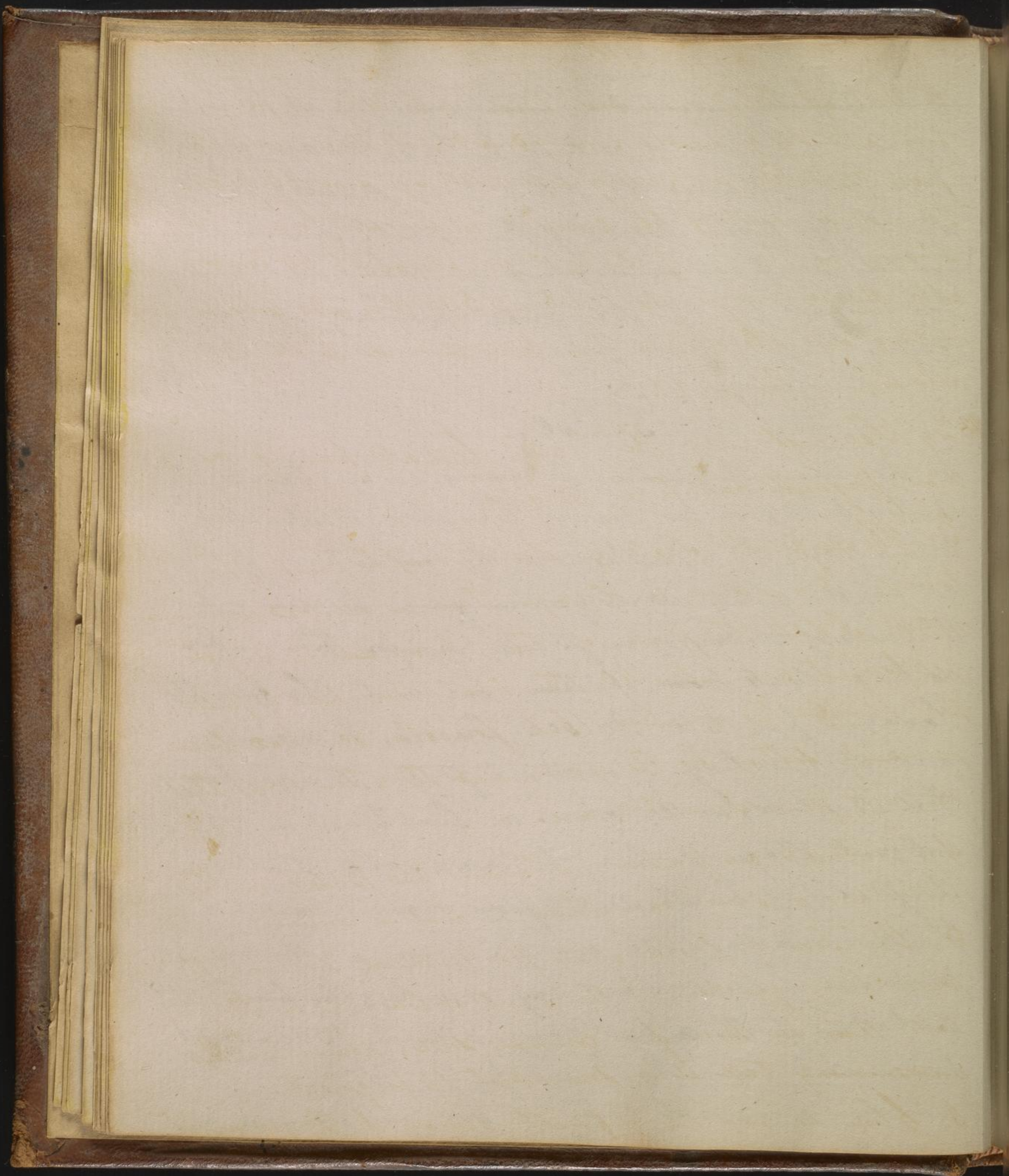
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Masses of fat pressing on the contiguous parts, 5, from pressure on the muscles, as lying in bed on the arm &c, 6, from cold contracting the arteries by its sedative power, and lastly, from disease of the Heart. These without this sympathy occur chiefly in Malignant cases. This accounts for the slow blood accompanying soft pulse.

The Pulse.

In discovering the nature of disease, we are taught by Authors to rely on the Tongue, Respiration, Perspiration, Urine, Stool, &c, as mentioned in the last Lecture, but let not any one of these direct you in your treatments into the causes of disease or in prescribing for them. My doctrine rejects none of them, but in it, the greatest homage is paid to the Pulse. In order to acquire an accurate knowledge of a diseased pulse, it is necessary that its states, as they occur in Health, and in the different stages of life, be known. The state of the pulse in Health varies from different causes, 1, it varies according to the age of a person; at the commencement of life or a few days or weeks after birth, the pulsations of the arteries range between 130 and 140 per minute; towards the end of the first year, the pulsations are about 124; at two years old from 108



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to 112; at three years old from 90 to 108; at four, five, and six years old from 80 to 90; at seven years old from 72 to 80; at puberty and adult age from 60 to 80. The advancement of life causes it to pulsate somewhat slower, at the age of sixty, it pulsates about 60 times, after this it ranges about 45 and 50; it is also intermitting and slow, and sometimes descends to 40, 30, and even as low as 26.

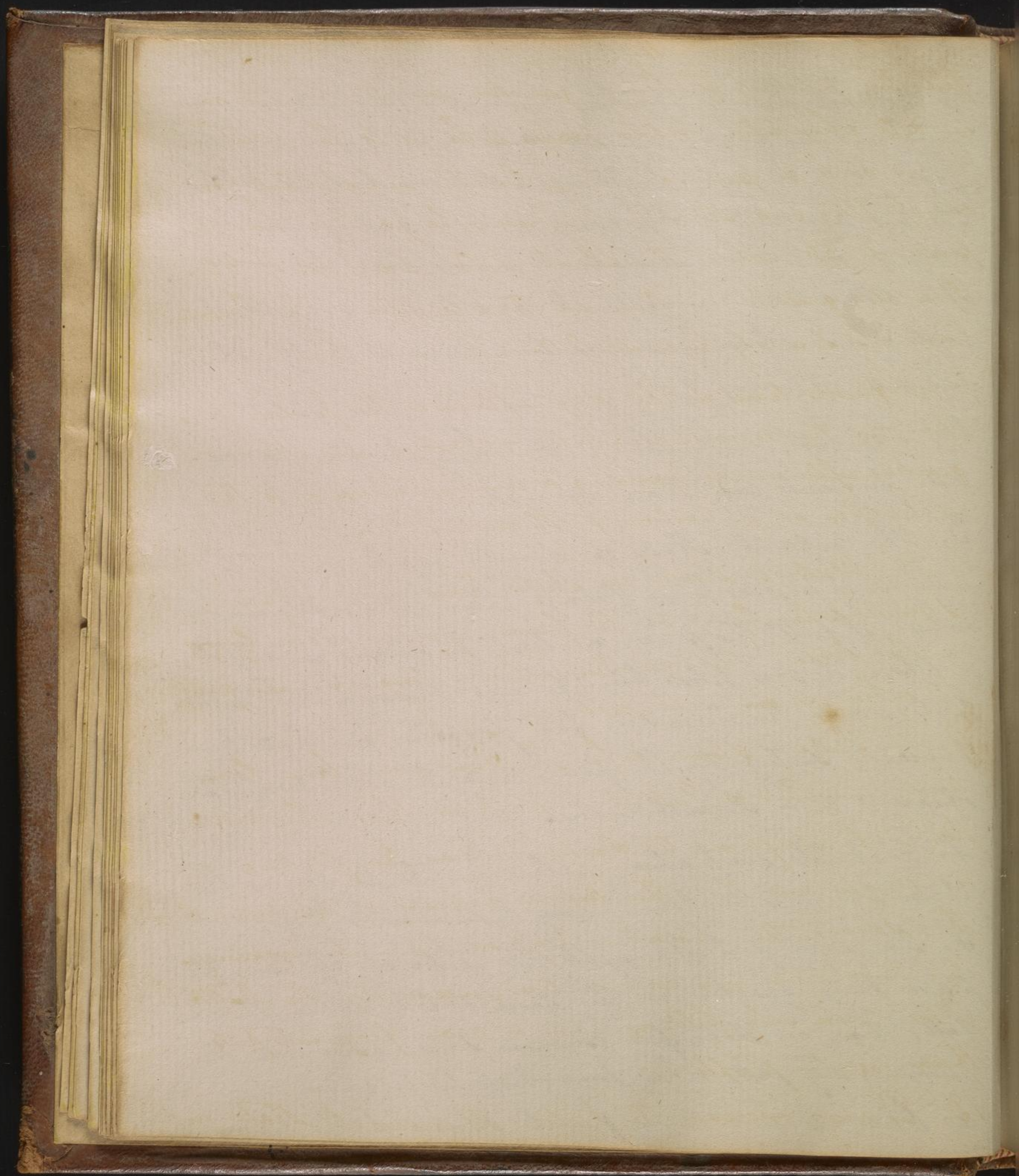
2, Sex influences the pulse, females having a more frequent one than males.

3, The different states of society influence the pulse, it is slower in Savage than in civilized communities; I felt the pulse of ten Indians in eight of whom it was below 60, the two others had a pulse that reached this number, but forsooth, one had been previously sitting by the fire, and the other was the offspring of a Frenchman.

4, Different occupations influence the pulse, as the Idler has a slower one, than he that is active.

5, The size of people affects the Arterial system, the pulse being quicker in the short or low and in the very tall, than in those of a common size; however in the uncommonly tall it is somewhat less frequent.

6, Climate, and the different seasons of the year af-



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put the pulse, it being quicker in warm, than in cold climates. White people who go to the West-Indies have a pulse of 80, while the inhabitants have one of 72, and strange Negroes who go there have a pulse of 88, while the black settlers have one of 72. It is also quicker in summer than winter. In Greenland it scarcely exceeds 40.

7, Different times of the day influence the pulse, it is slower in the morning, quicker at noon, and slower or quicker afterwards according to circumstances, or to the application or abstraction of stimuli.

8, The pulse is slower in sleep, than in vigilance, slowest when lying on the back, quicker when lying on the side, still quicker when sitting up, and quickest when in an erect posture.

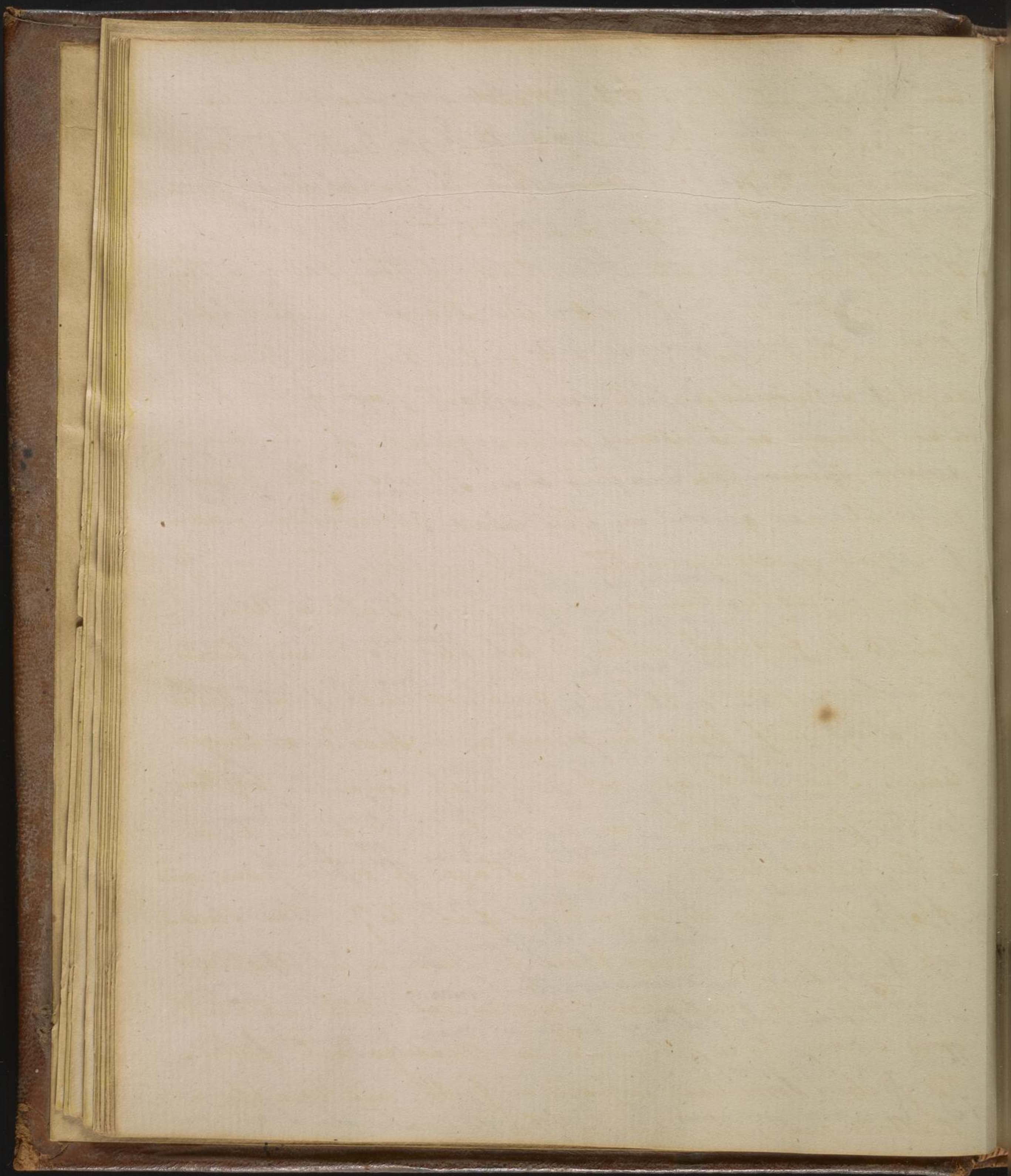
9, The pulse is slower when the arms have been some time uncovered or subject to pressure, than otherwise.

10, Diet and fermented drinks quicken the pulse;

11, Anger and the other active passions of the mind do the same, the sedative passions lessen its frequency.

12, Vigilance and conversation increase it, the latter is the reason why seafarers have a more frequent pulse than country people.

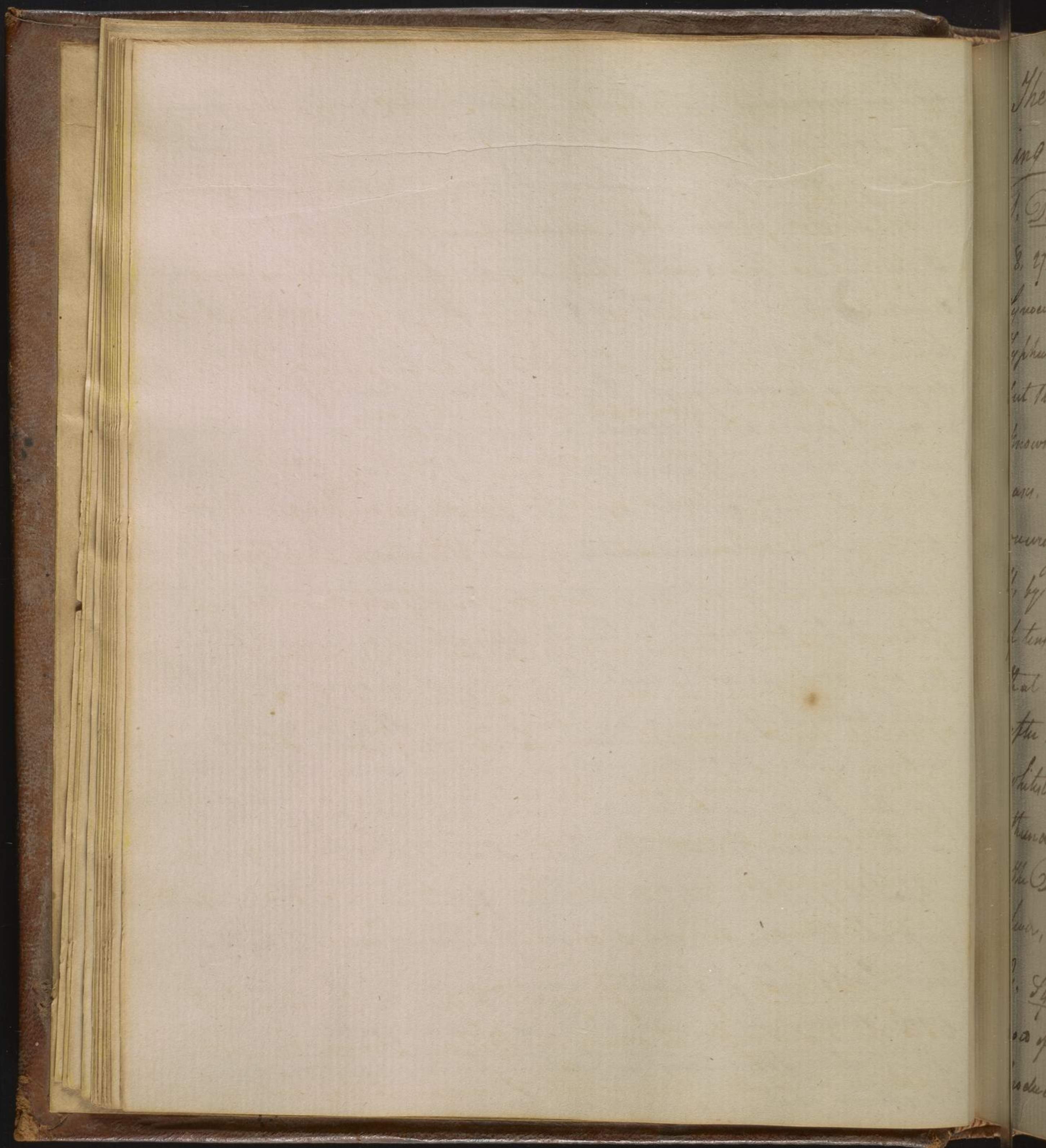
13, Exercise increases the pulse, its natural state in



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an experiment being 64, standing increased it to 68, walking one mile to 78, two miles to 88, and running to 150. In some healthy people it is quicker or slower than above mentioned.

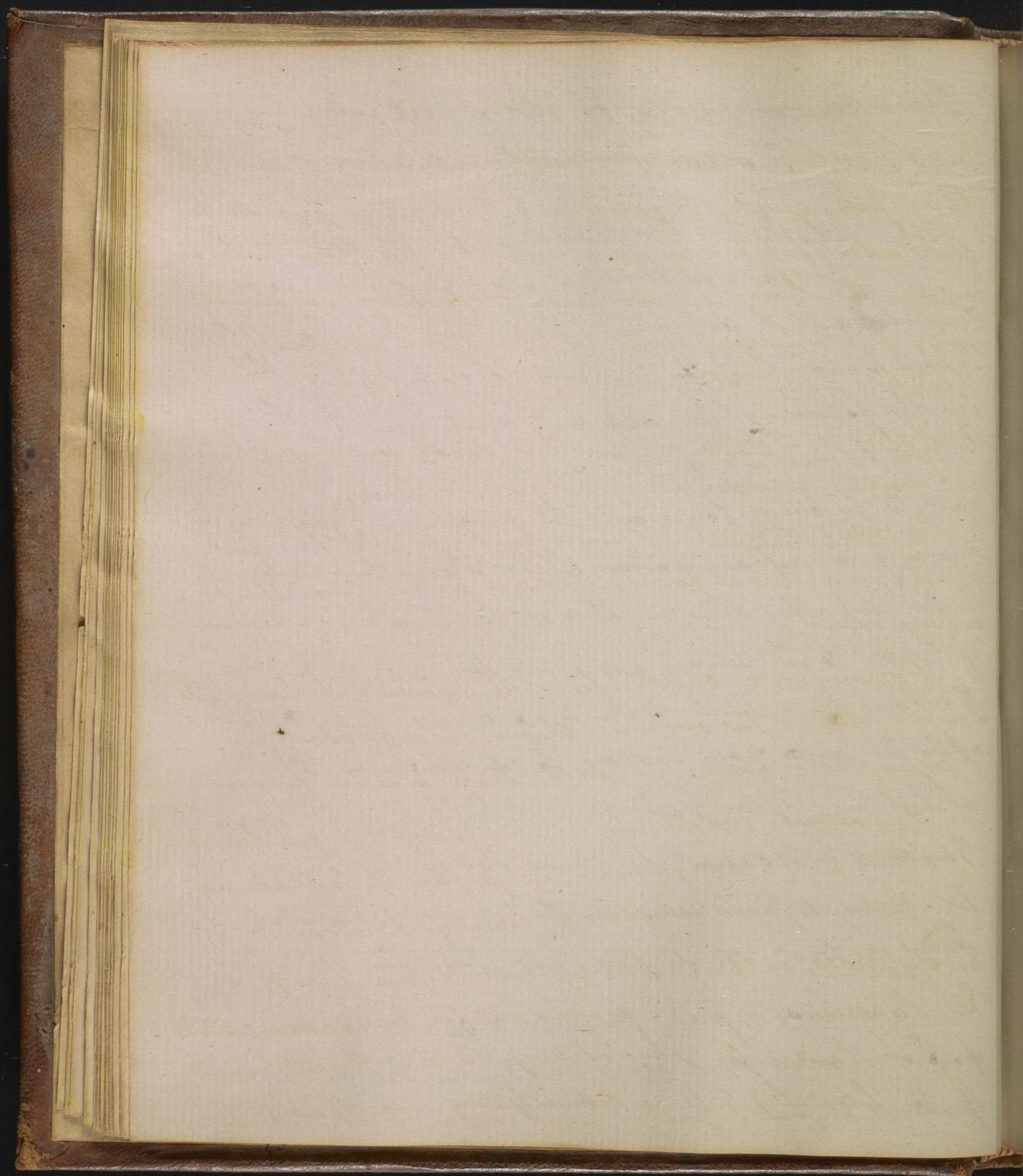
Thus have I related the states of the pulse, as they occur naturally in the different stages of perfect life, but as Physicians, we are to go further, and thereby acquire a knowledge of this important part of the human frame as it varies in consequence of the numerous diseases that infect our species. The terms frequent and quick in the above observations have been used indiscriminately, but in those that are to follow, a distinction is necessary, a pulse is there said to be frequent when it vibrates so many times in a given period, but its quickness is confined to the pulsation itself being performed in a shorter or longer time. These two are not necessarily connected together, for the pulse may be very quick, but not frequent, as in the yellow fever, the last stage of other fevers, and Apoplexy, when it sometimes falls to 7. This slowness of the pulse arises from pressure, as in Apoplexy and Palsy, the pulsations being equal, but intermissions occur, this is met with in malignant fevers. The pulse sometimes imparts a jerk, and resembles a shattered quill, this occurs in Rabies. —



The different states of the Pulse, as occurring in Fevers.

1. Depressed pulse, this occurs frequently as low as 30, 28, 27, it is raised by N. section, and assumes the Synocha, Synocula and Synochus, it is something like the weak or Typhus pulse, hence the difficulty of distinguishing them, but the following Ven. acts will direct you, 1. this is known by occurring in the commencement of acute diseases, 2, by being raised after N. section or a purge, 3, by occurring in inflammations of the Stomach and bowels, 4, by imparting on every third or fourth stroke a degree of tension to the fingers, and lastly, ~~the~~ resembles a tree that has been beat down by a current of wind, hence after the wind ceases it rises to its original state, whilst the Typhus pulse resembles a tree beat down by thunder, which cannot be raised but by the hand of art. The Depressed pulse occurs in the Malignant states of fever, Natural Small pox, and other Fevers.

2. Synochus, or full, frequent & quick pulse, but void of hardness, it occurs in Bilious Fevers. Exercise produces a pulse somewhat similar to this, but in it



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there is no tension, it being round and full.

3, Synocha, or common inflammatory pulse, it being full, quick, frequent and tense, it is preceded by chills and succeeded by heat, thirst, &c. This sometimes occurs in the Plague, Yellow fever, Scurvy, and Small pox, but more frequently in Pneumonic affections, Rheumatism, Gout, &c.

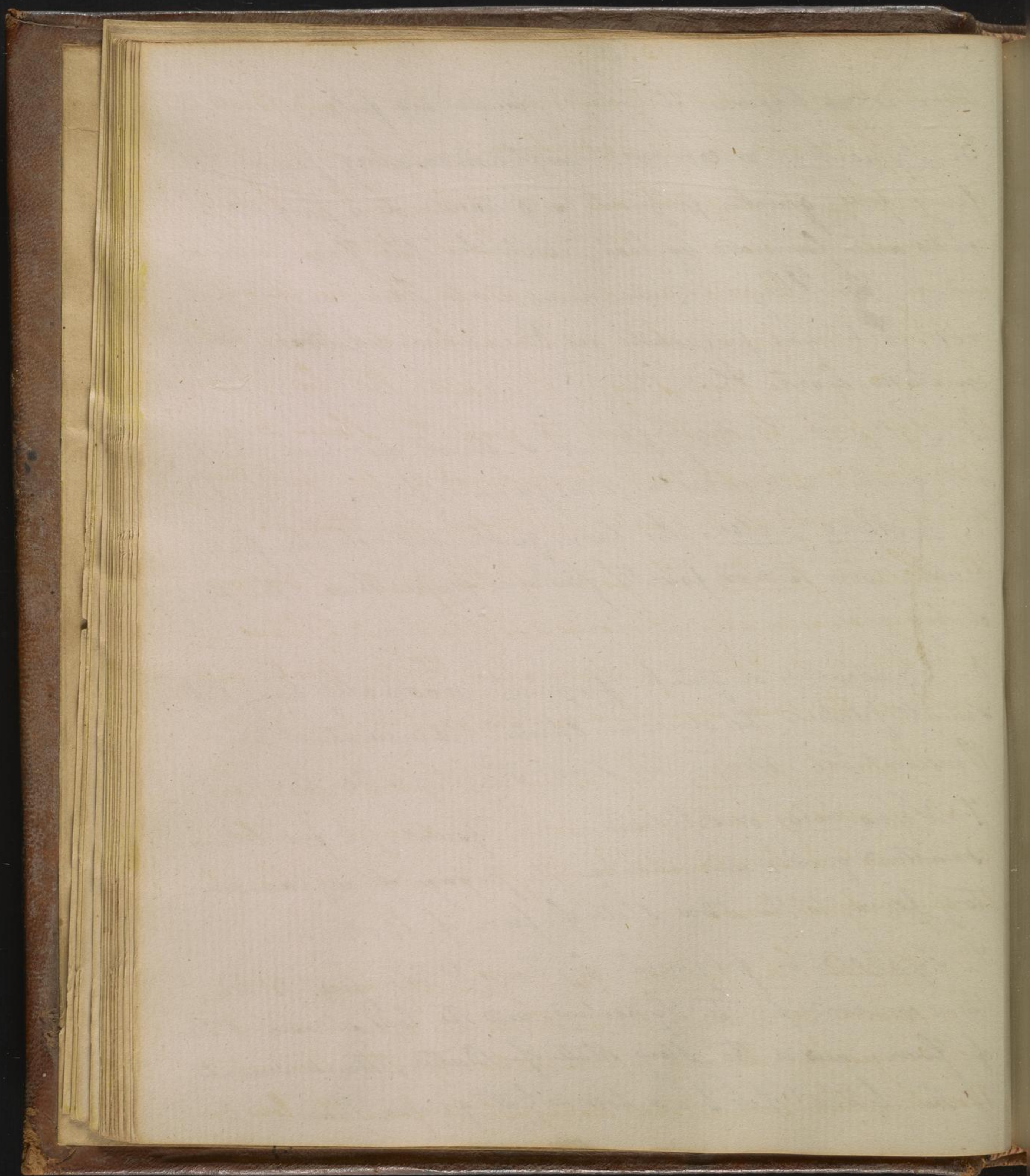
4, Sulky or Locked pulse, it is small and tense, but not quick, and occurs in Malignant fevers.

5, Hobbling pulse, this tense, quick, and not very frequent, every third or fourth stroke is fuller than the preceding ones.

6, Synocula, or quick, frequent, moderately tense, but small pulse, this occurs in chronic Rheumatism and Consumption, also in the second stage of other fevers.

7, Synochoid, or soft and pulse, it feels like a shattered quill, and occurs in the passage of inflammatory fevers to the slow state of fever, of Butcher.

8, Typhoid, or frequent, less tense & then full pulse, this is composed of the Synocha, and the low chronic state of fever, and is the slow state of Butcher, the excitement of the blood-vessels being somewhat greater than in the



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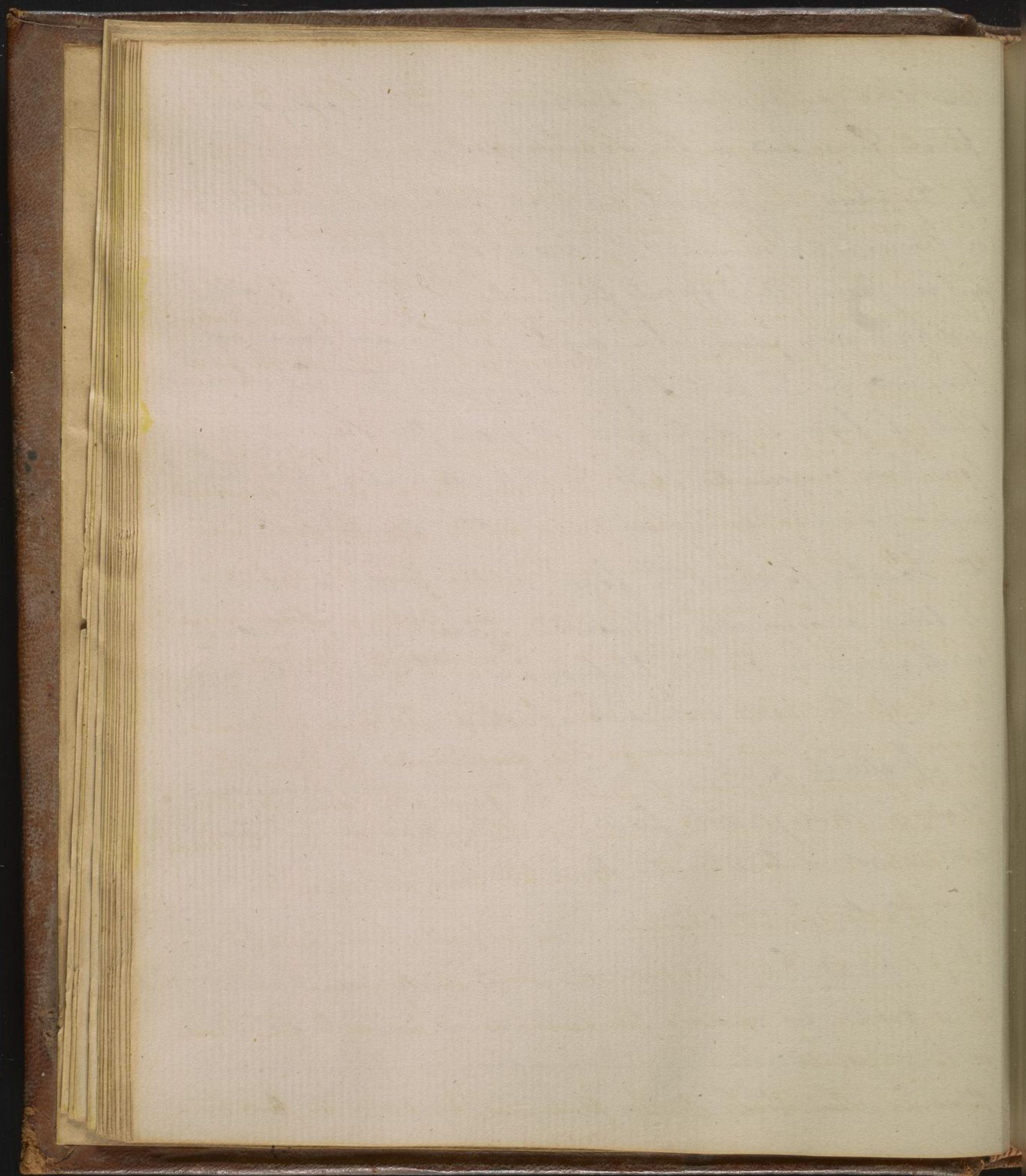
low state or Typhus; it occurs in the Acute and Pur-
pural Fevers and in the Scarlatina.

9. Typhus, or frequent and weak pulse, without fullness
or tension, this occurs in the low chronic state of fever,
and in some Malignant fevers, also in the close of all
inflammatory fevers, where depleting remedies have not
been used in the first stages; it is called the low chronic
state of fever to distinguish it from the slow. It is
sometimes compounded with the depressed pulse, but they
may be readily distinguished as I before mentioned.

10. Hectic pulse, the form of this pulse is various
it being occasionally Symachoid, Typhoid and Typhus, it
occurs chiefly in Phthisis Pulmonalis, Hectic Gout, and
waste of the body from Lues and Scrophula.

11. Natural pulse, this occurs in the most dangerous
state of Malignant fever, hence the danger in this
case is not to be estimated by the pulse, but by the at-
tending symptoms.

12. Thread-like pulse, this is scarcely perceptible;
it is known by occurring in acute diseases after V. section
and purges, by attending inflammation of the Stomach &
Bowels, which circumstances distinguish it from the low or



weak pulse; it frequently occurs in the last stage of life.

Authors make mention of other pulses, as the Oscillatory, Vermicular and Undulatory, these however, are included in the above, the first being the Hobbling or insidious pulse, &c. Thus I have mentioned the morbid states of the pulse, as they occur in fevers, but there are certain states of the pulse, to be noticed, that occur in diseases when little or no fever is present.

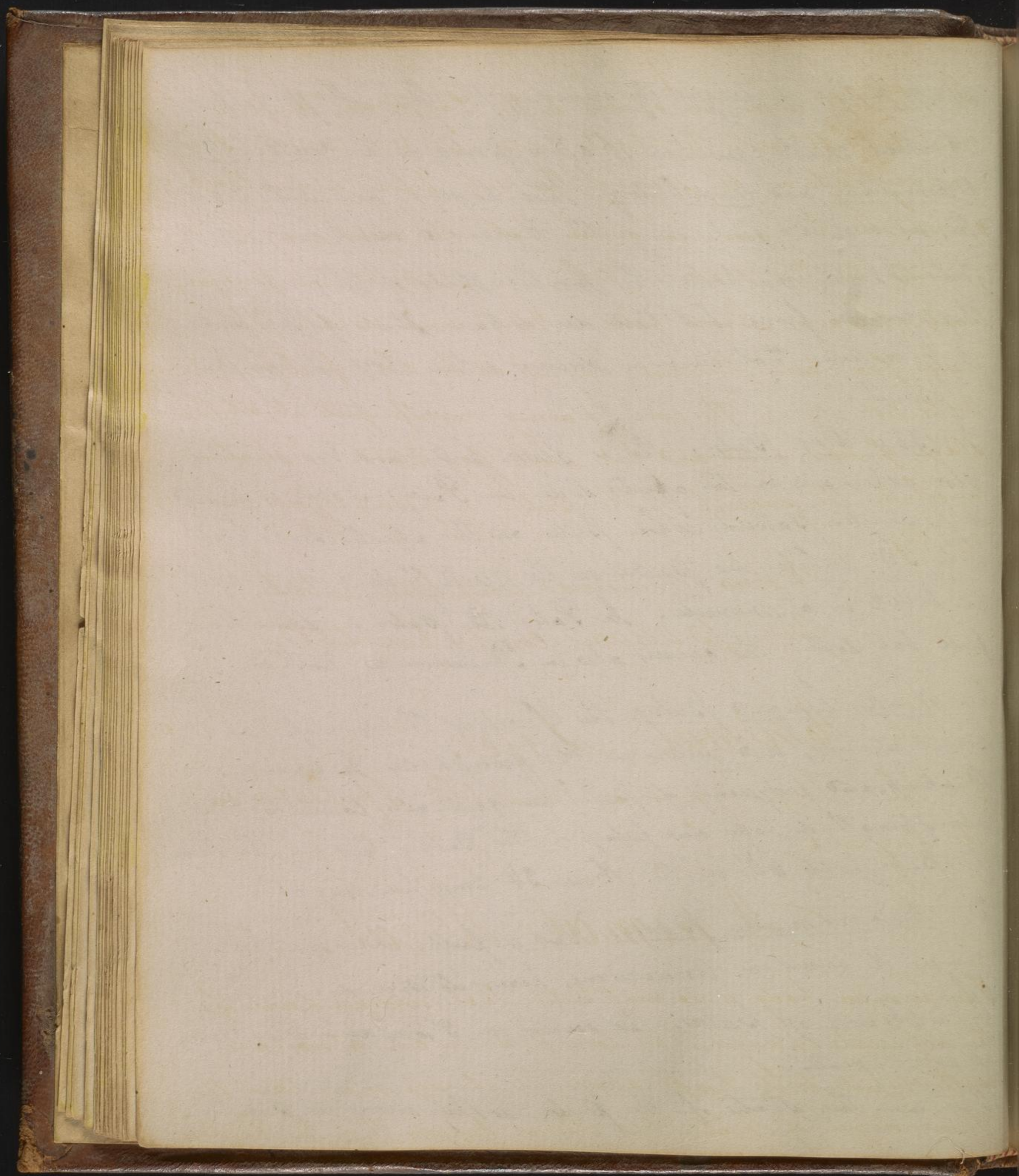
1. Bounding pulse, this is slow, full, and tense, it is slow especially in the affected side in Palsy; I once examined a Paralytic patient whose pulse on the affected side beat only 50, while his pulse on the well side beat from 80 to 92 in a minute. In Palsy the pulse is sometimes full but soft; this occurs also in Pneumonia Notha.

2. Weak, languid pulse, this precedes the cure of malignant diseases, and occurs in Hydrocephalus In termis, Weakness, and frequency of pulse are generally found together, also strength of body and fullness of the pulse, thus in the Plague the pulse beats 65; in the Hoarse 34 times per minute.

3. Aneurismatic pulse, this is full, tense, and jerking, it occurs in Aneurisms, hence its name.

4. Absence of pulse, this occurs in Stomach and Bowel complaints.

These are the states of the pulse, as they occur in practice.



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If the left arm be offered to the Physician, the pulse must be felt with the right hand, and vice versa. It is necessary to know the state of the pulse before Wine, Bark, Opium, &c. be given, in order that the dose may be regulated to this state. When the pulse is 180 per patients recover, I once felt it 204 in a child. The pulse sometimes becomes languid at the close of life, but this is not always the case, having myself felt it, at this stage of life, hard and full with fizzy blood. I shall conclude the account of the pulse by giving you my motto,

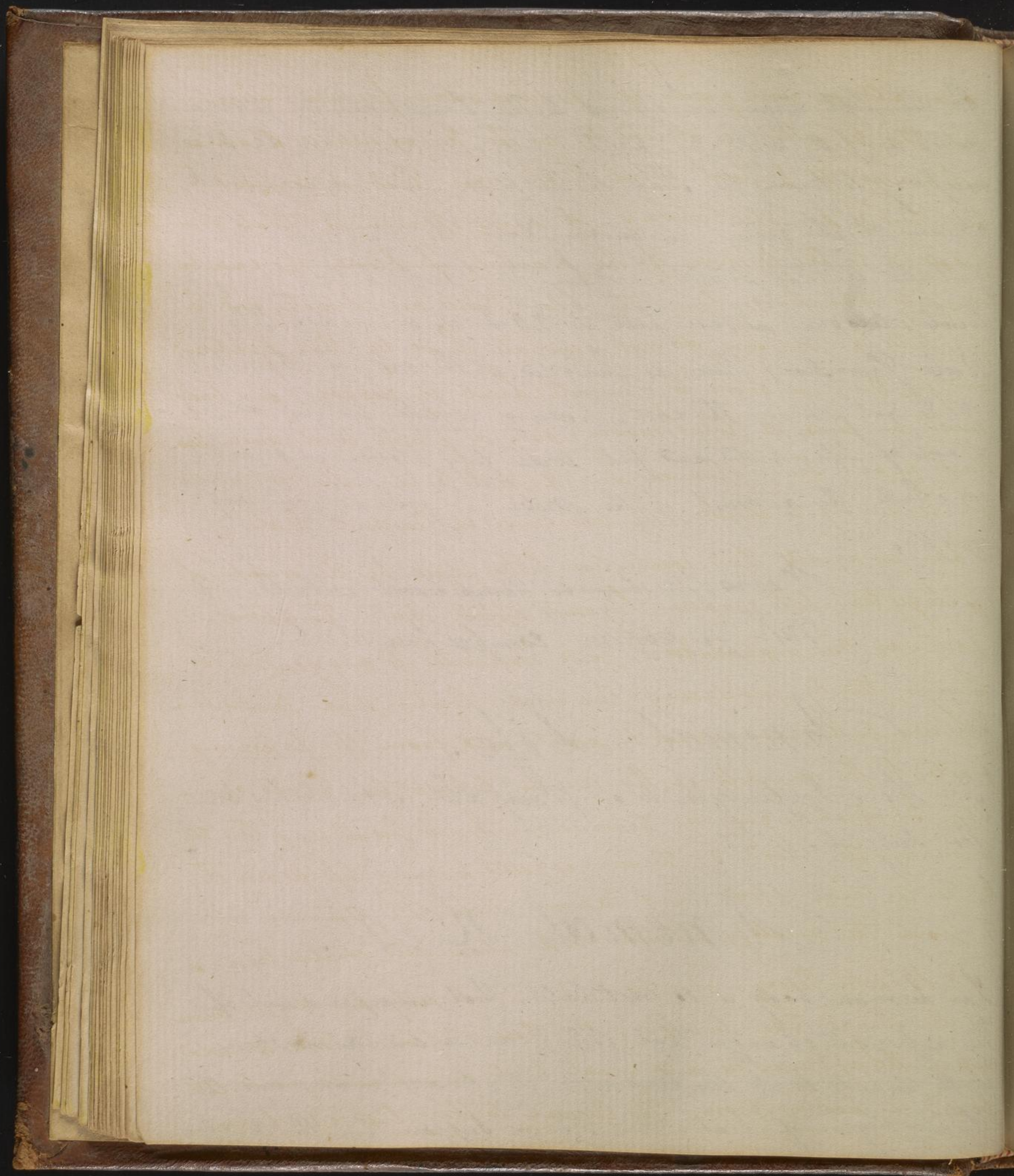
*Nemo Medicina triumphum intrat,
Nisi pulsum comprehenderit.*

Animal Life.

For this I refer you to a pamphlet I published on the subject.

Animal Heat.

The human body is so constituted, that, independent of the different changes that take place in our atmosphere with respect to its temperature, it always maintains the same degree of heat. Dr. Sturges supposes that the heat is

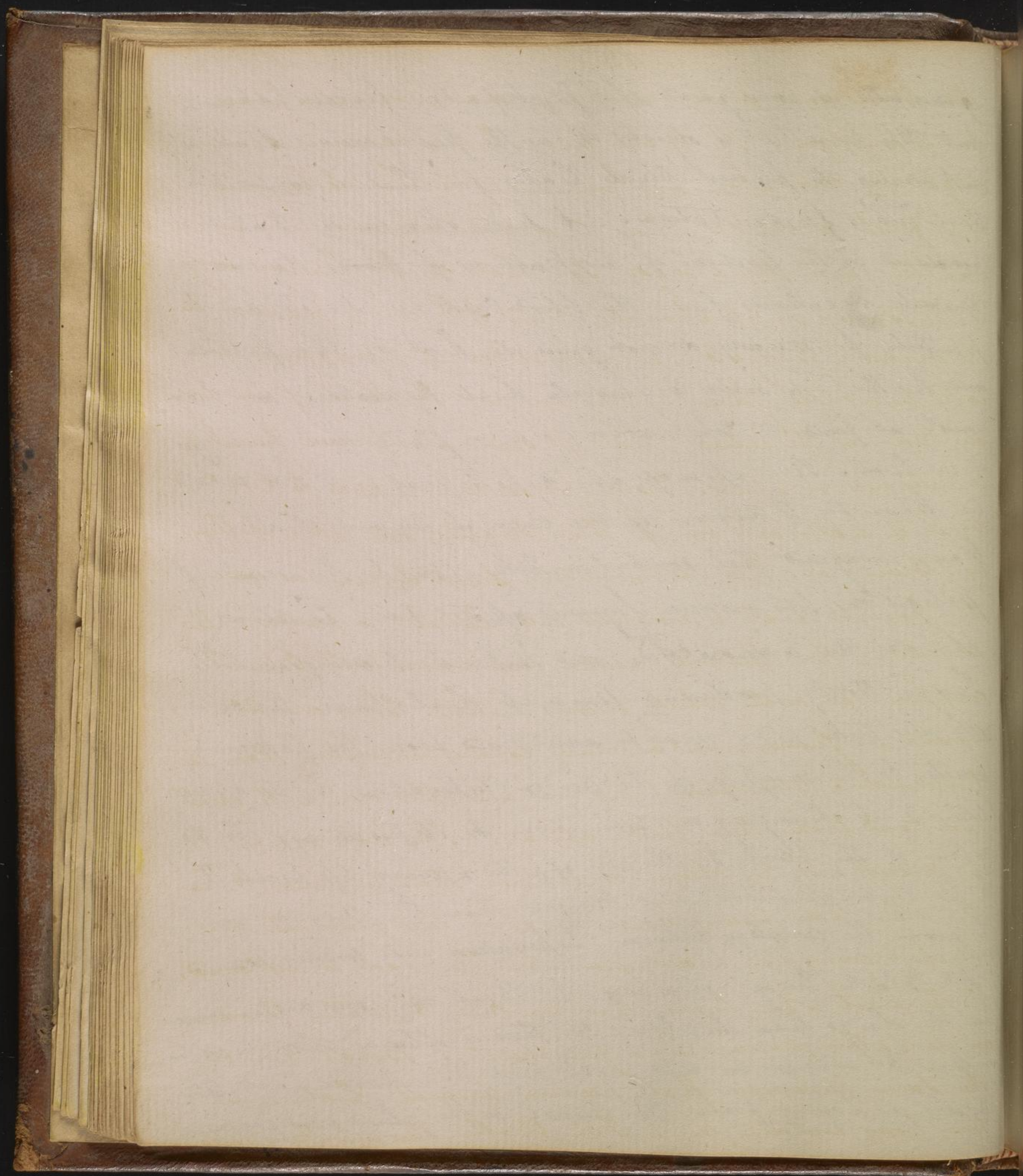


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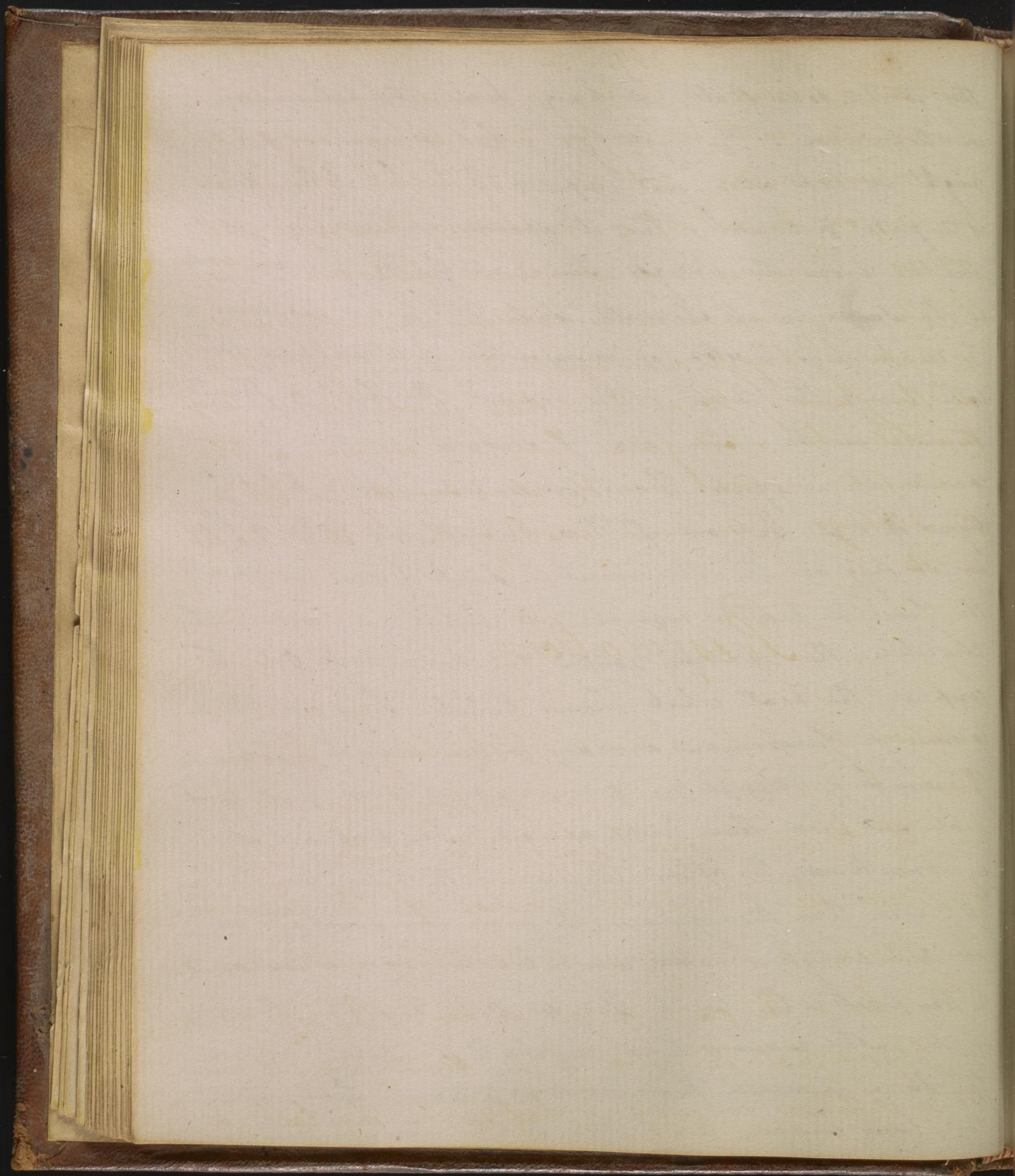
generated in consequence of putrefactive fermentation, but this hypothesis is objected to, as the putrefactive state is not owing to putrefactive heat, for heat is confined to the vinous fermentation. A second opinion is, that it is produced by the friction of the particles of blood, this can be easily negatived, since the blood-vessels are smooth, and the particles of mercury do not generate heat by their friction; and further, in order to generate heat by motion, one body must be fixed, a rope moving over a pulley will never produce heat. These opinions are hypothetical. It was reserved for Chemistry to discover the true cause of Animal Heat.

Some imagined that combustion took place by the escape of phlogiston, but modern Chymists assert, that, the atmospheric air is decomposed, and imparts its oxygen to the Lungs, thereby producing Animal Heat; that this actually does take place may be ascertained from the following facts, 1, the necessity of this air in respiration, 2, its quantity, 3, its changing in respiration, 4, its producing the red colour of the blood, 5, the air expelled having less warmth, 6, the arterial blood being warmer than the Venous, and 7, from the analogy between respiration and combustion.

Dr Black's Theory, objections, 1, That only one degree more in the Lungs than elsewhere, 2, there is often a morbid coldness in the extremities and great heat in inflamed parts. All bodies in passing from the Aerial to the fluid and from



this to the solid state, discharge heat, this takes place in respiration. The Azotic gas which is produced during night by respiration, and confined by the bed-clothes, will extinguish a candle, thus it appears impure air is emitted from the Lungs. The Heat of the Human body is the same in all climates, to wit, 96° ; and is produced by the escape of phlogiston, or decomposition of atmospheric Air, both being the same. Why does not the Heat of the body rise in the intense heat of Summer? because perspiring counteracts its effects. Four persons were exposed to 212° degrees of heat, only one of them sweated, and either of them, by blowing on the Thermometer, sunk it; in this case the sensible heat is converted into latent, to favour this conjecture, the Africans moisten their bodies with Oil, to confine the heat which becomes latent. Trees are 2° warmer in Summer, and as many colder in winter, than the surrounding Atmosphere. Drunkards often die with great heat, and from them Fræake appears. This heat appears, 1, in drunkards, 2, oftener in women than in men, 3, in old rather than young people, 4, heat thus generated does not spread contiguous bodies, even when the body is inflamed, 5, the parts when burnt have an Oil, 6, water thrown on it rather increases than quenches it. Birds live on the same principle that produces animal Heat, even their bones contain air. Fish breathe through their gills.



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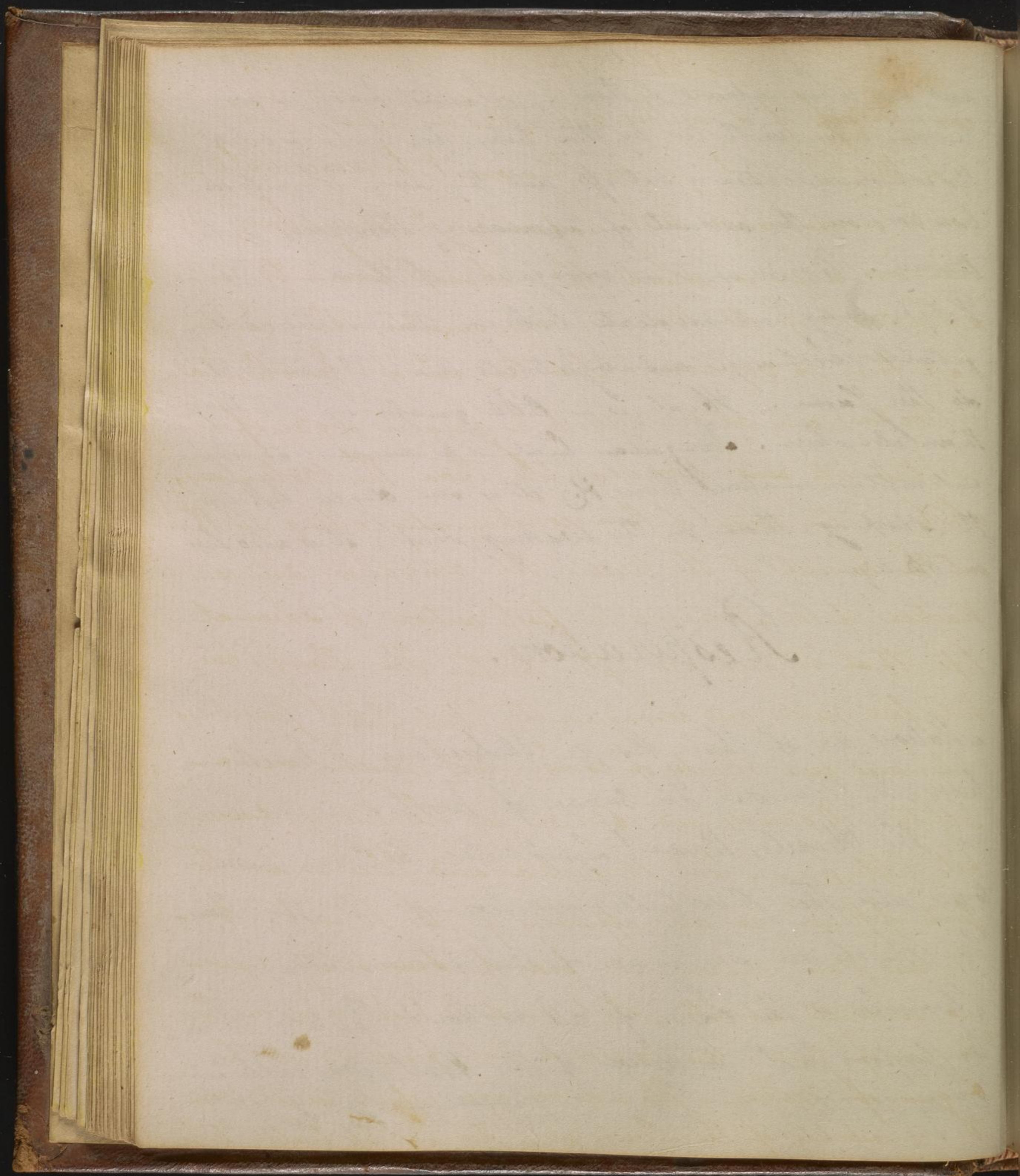
and die when deprived of them. Insects have a communication with air by their tubes, for by being oiled this communication is cut off, and they die. Snails are cautious on this account of besmearing themselves with Mucus. Worms exist in consequence of this air. The Polyki being intermediate between Animal and Vegetable, discharge oxygenized air; Vegetables do the same. Heat is a little greater in the lungs than elsewhere. Irregular heat is a disease, as topical inflammation, *Febris H.* it is one degree less in the sleeping, than in the waking state; it is also less in old age.

Respiration.

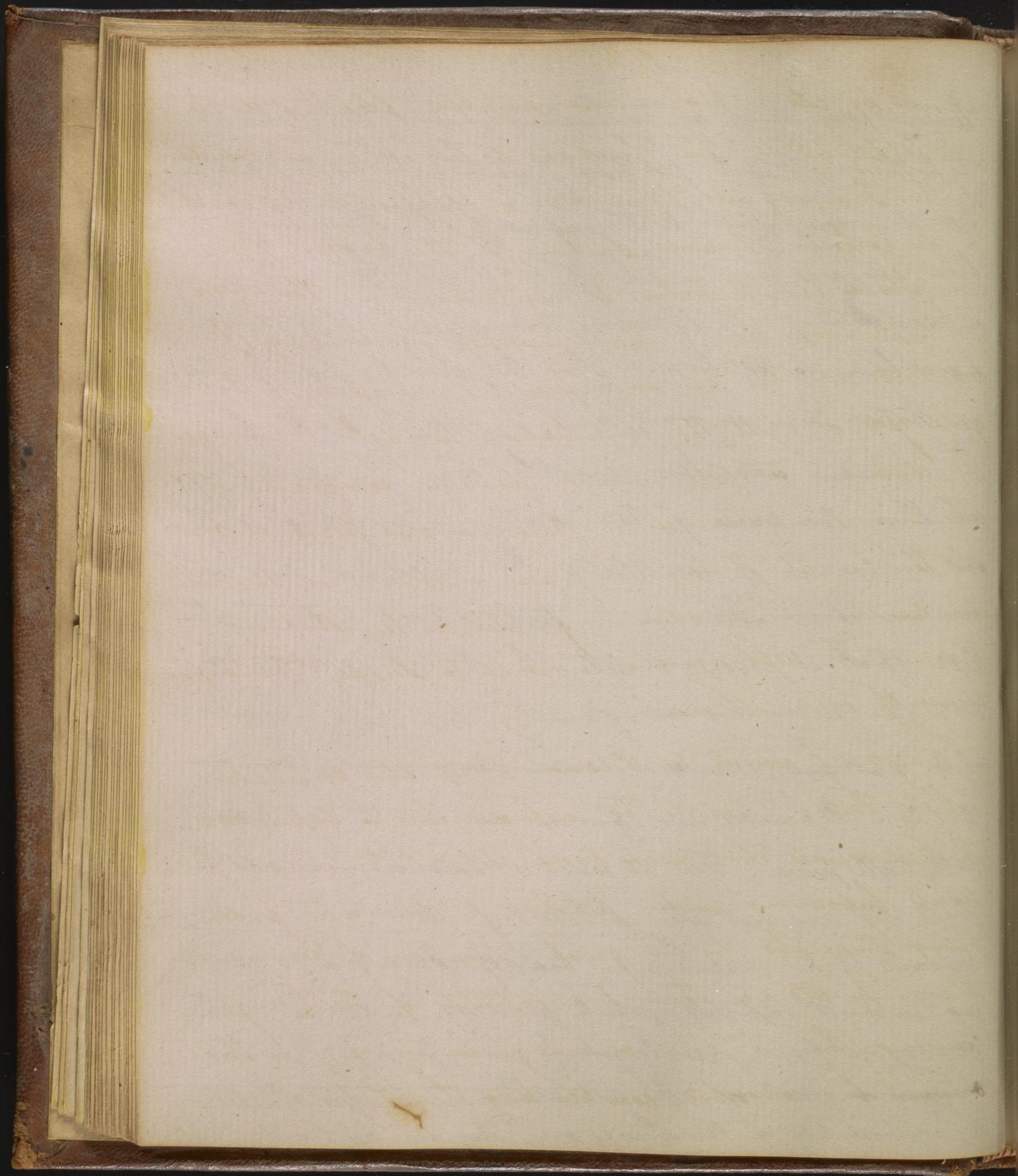
Motions are of three kinds, Voluntary, Involuntary, & Mixed. The Organs of Involuntary Motion are, the Heart, Brain, Lymphatics, Arteries, Secretories, and the Peristaltic motion of the Intestines.

The Muscles are the Organs of Voluntary Motion.

Stimulus is the cause of all motion; Bishop Berkeley supposes that the action of the Heart was influenced by Volition in infancy, but that they lost a

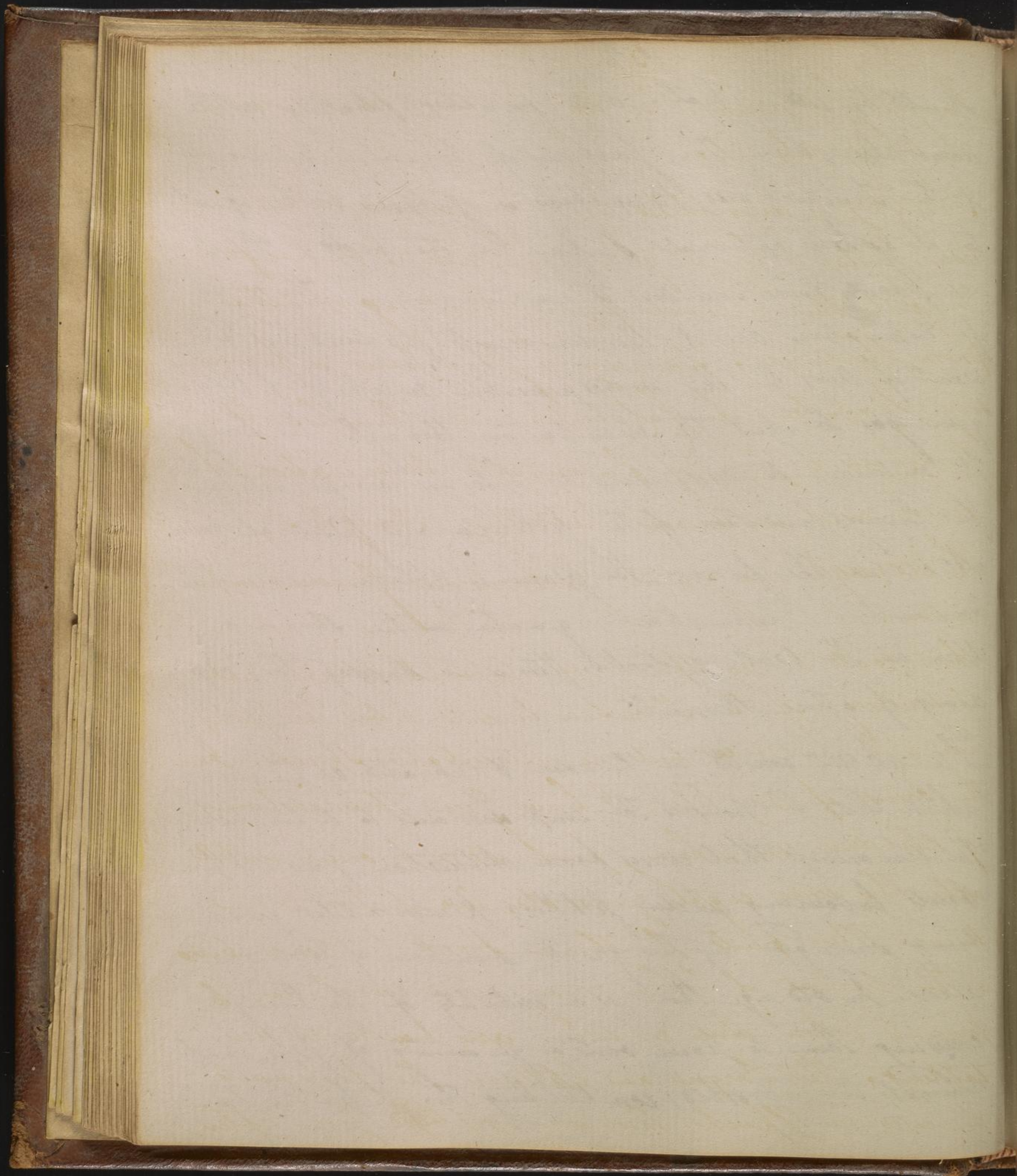


consciousness of it as they advanced in years. This hypothesis I reject, for two reasons, 1, because volition is incompatible with infancy, 2, there have been instances in which the Heart has acted independent of the Brain, consequently there could have been no volition. The Organs of Involuntary Motion are endowed with a greater degree of excitability and Stimulability, than the Voluntary, which is the cause of their continually acting without the consent of the Will. The dilatation and contraction of the Thorax is the first action of animal life that is perceived after birth. The Lungs have but few nerves and consequently but little sensibility, and few Muscles, of course not much irritability. Wounds and effusions in the Lungs cause but little pain. The Bronchia and Pleura are the Seats of Pain in all affections of the Breast. Anger and pain deprive the body of sensibility, causing indirect debility, which produce Asphyxia in the Organs of Sense, analogous to that produced in the Organs of Motion. The advantages which result from the insensibility of the Lungs are, They are less liable to be



affected by cold or heat, and matters floating in the atmosphere, &c. The surface of the internal cavity of the Trachea and Bronchia is supposed to be equal to the whole external surface of the body. There are about four pulsations to one Inspiration. The causes of Inspiration are 1. The uneasiness produced by the want of air, 2. The indispensable necessity of Oxygen gas to effect the circulation through the Lungs. The criterion to discriminate between complaints of the Lungs, and those of the Pleura and Pectoral muscles is, in the former, the pain is obtuse, in the latter, acute. Respiration is greater in the sleeping than in the waking state, this is to supply the deficiency of other Stimuli.

Laughing consists in gradual & repeated expirations, which tend to remove the impediments to Inspiration. The uneasiness, that arises from obstruction, prevents patients labouring under Phthisis Pulmonalis, from being strangled by the great suction of Pus in the Ulcers. In old age there is a debility of the Lungs, causing them to pour out a quantity of Pus that cannot be absorbed, constituting the Puffis Similis.



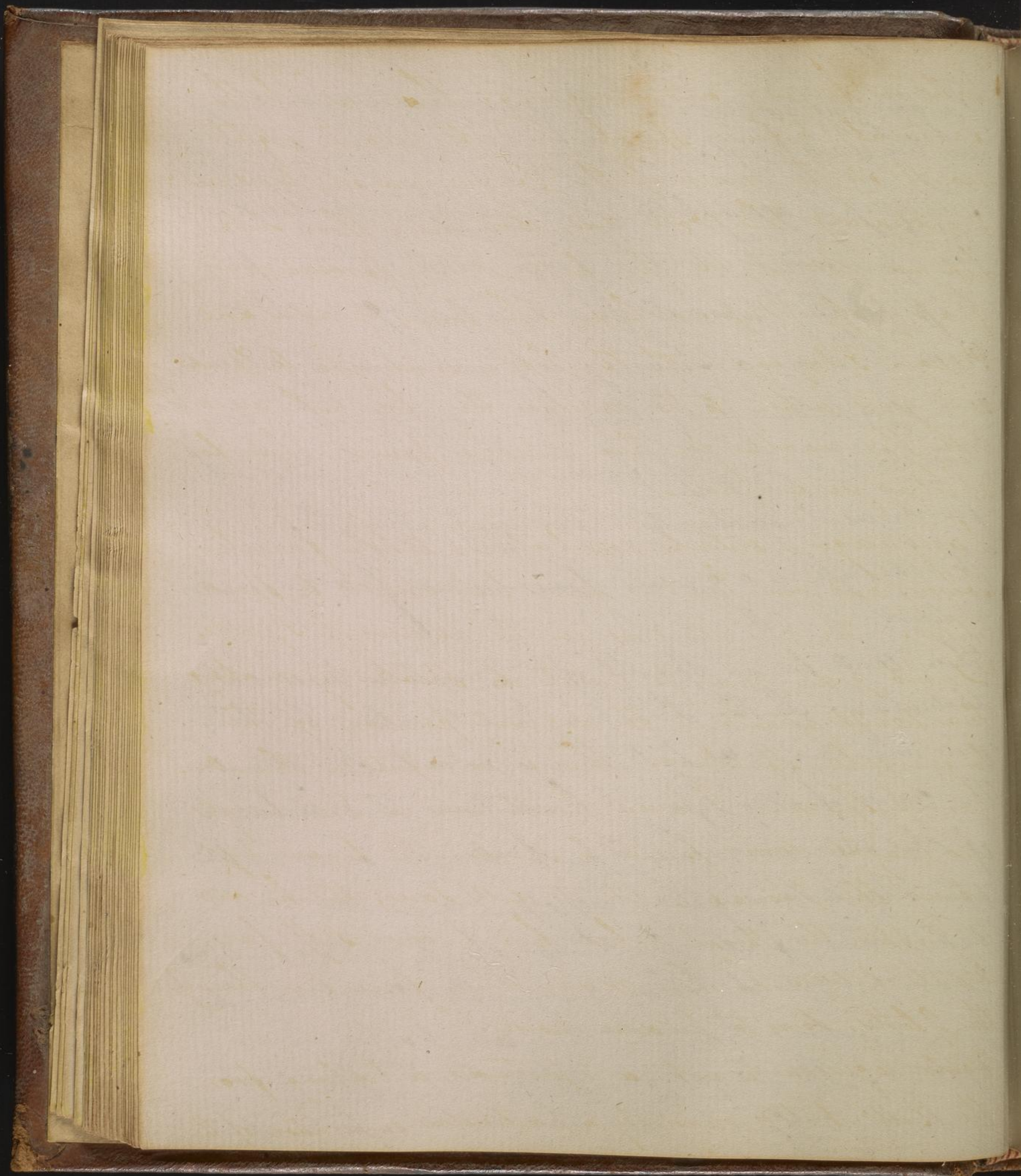
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Laughing is improper in the forenoon, as it induces morbid excitement.

Sneezing is accomplished by making a deep inspiration, followed by a quick expiration; it has for its effect the removal of any offending matter from the nose. Sneezing is sometimes a precursory symptom of Catarrh, and Measles. It is sometimes a sign of favourable termination of fevers, as it indicates returning strength.

Hiccough is a great, sonorous and sudden inspiration.

There could be no speech if Aspiration was not Voluntary. If the Trachea be cut below the Glottis there will be voice but no articulate speech. In the course of my life, I have seen three instances of children, in whom speech did not occur until after they were eight years old; two of them were twins. These facts Gentlemen should be remembered as the recital of them may afford consolation to Parents when their children are backward in talking. The Larynx and Glottis are the first parts exercised in speech, then are employed soon after

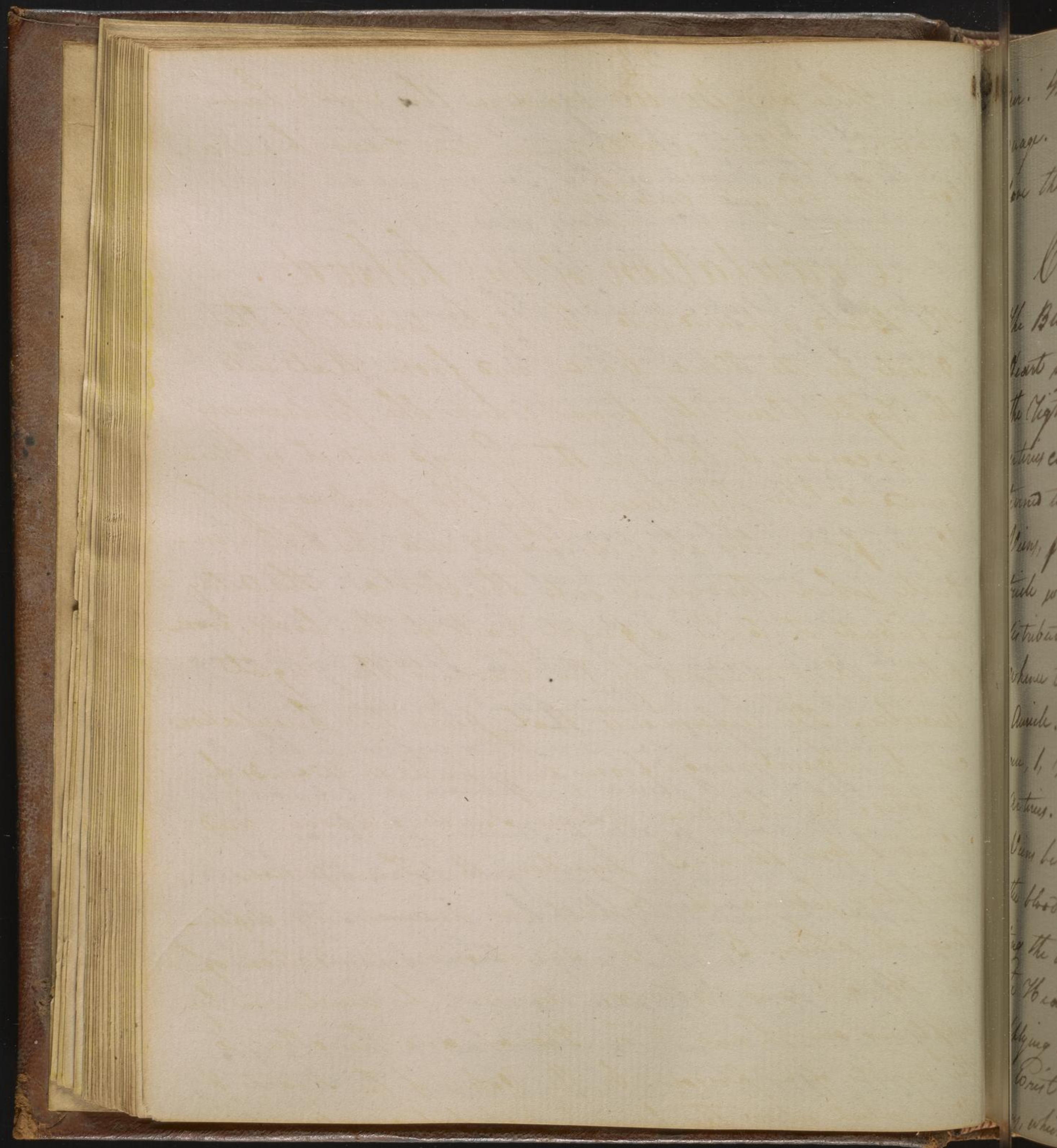


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birth in crying and laughing, these are both favourable to early speaking. At about eight months the muscles of the Tongue are employed in pronouncing the word dad, dad, dad; those of the Lip are not until the tenth month pronouncing pap, pap, pap, whence the terms Dada and Papa. Playing with the lips is conducive to speech, as it gives action to the muscles. The four teeth are not more serviceable for their incisive power, than for assisting articulation.

Language is entirely imitative; whole families, Towns, and some Countries have been observed to speak alike. The Eyes and Ears are the avenues of Speech. Dumb people may be taught to speak by making them watch attentively the different positions of the Tongue when speaking; there is no defect in their organs of speech. I saw a Gentleman in Edinburgh who taught dumb people to speak; he began by rubbing the Throat until it felt sore, this he did to supple the throat which had become stiff, for want of use; he then made them force Air through the Glottis, so as to produce noise.

Venter loquism is not, as is put forward, a talking from the Belly, but is made by a particular inspiration of the

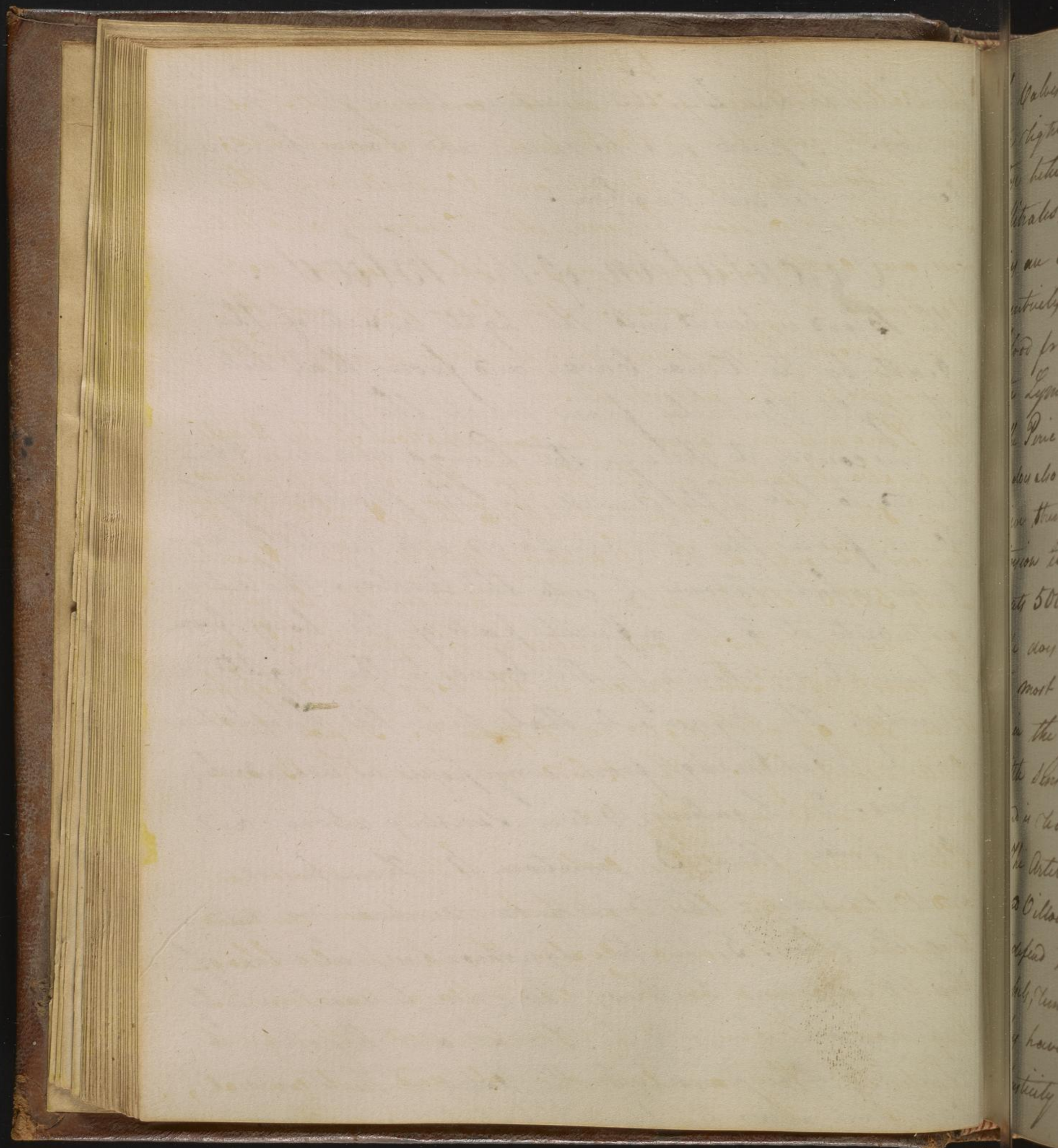


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air. There are 40,000 words in the English language. Speech ennobles man and raises him above the Brute creation.

Circulation of the Blood.

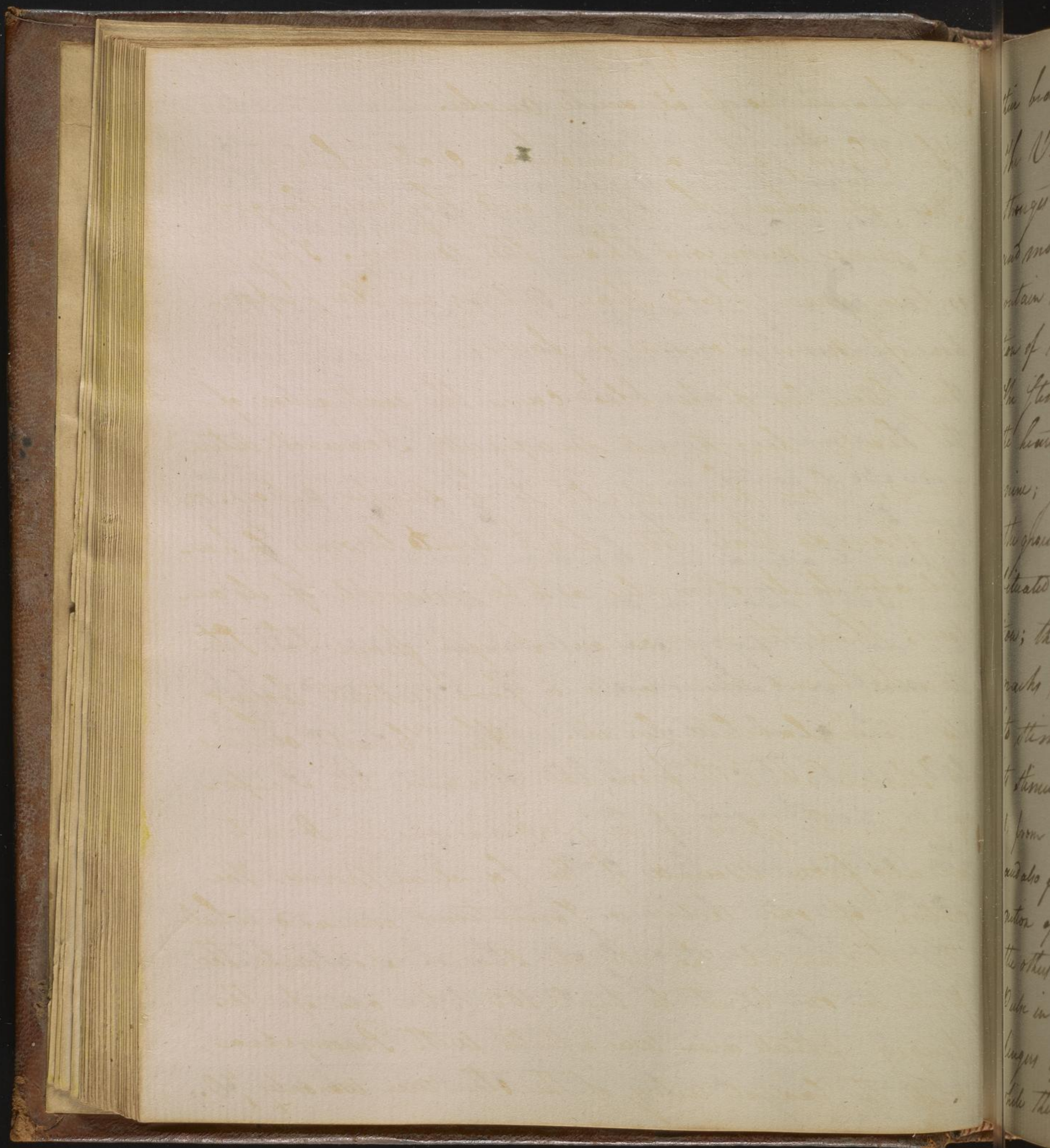
The Blood is poured into the Right Auricle of the Heart by the Vena Cava, and from that into the Right Ventricle, from which the Pulmonary arteries convey it through the Lungs and it is returned to the Left Auricle, by the Pulmonary Veins, from thence it is discharged into the Left Ventricle which throws it into the Aorta; this Artery distributes it to the different parts of the body, from whence it is returned by the Cava to the Right Auricle. The Arguments that prove the Circulation are, 1, Hemorrhage from every part in wounds of Arteries. 2, Ligatures, Arteries swelling above, and Veins below them. 3, Injections. 4, Transfusions, the blood feeding the Cepels of one Animal by depleting the other. 5, by the synchronous pulsation of the Heart and Arteries, this may be ascertained by applying one hand to the Thorax and the other to the Wrist of a person. 6, the Valves of the Heart & Veins, which allow the blood to pass but not return.



The Valves that are placed in the communication of the right Auricle and Ventricle are the Tricuspides; those between the left Auricle and Ventricle are the Mitrales; and those between the Ventricle and Arteries are called Semilunary. The action of both Ventricle is synchronous. The Veins take up the blood from the arteries, and if there is any left the Lymphatics absorb it.

The Pericardium favours the easy motion of the Heart, as does also its position in the Thorax. The coronary arteries give strength and stimulability to the Heart by the tension it affords the Cardiac Nerves. The Heart beats 5000 strokes in an hour and in the longest life does not enjoy one interval of repose. It is the most irritable muscle in the body, and possesses it in the greatest degree in infancy. It has but little sensibility. The Blood acts upon the Brain, and is heated upon by it.

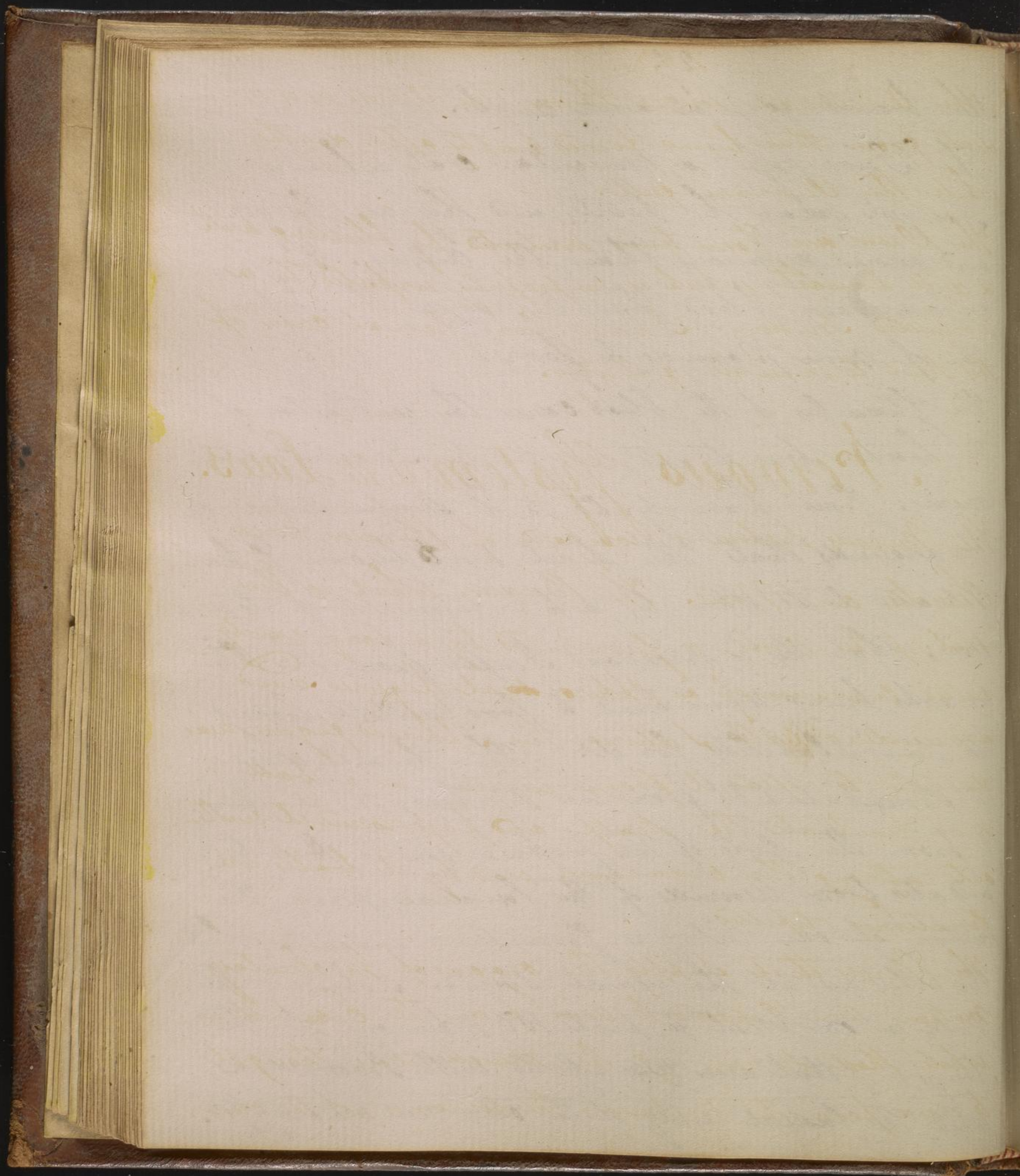
The Arteries have three coats, a cellular, Muscular, and Cellous, the last is a thick Membrane destined to defend the Muscular coat: they have also blood-vessels, remaining on them, called Vasa vasorum. They have Nerves and Lymphatics and possess great elasticity; they are cylindrical and not conical,



their branches go off at acute angles.

The Veins possess a muscular coat which is strongest near the heart, and they are larger and more numerous than the Arteries. They contain more blood than Arteries in the proportion of nine pounds to four.

The stimulus of the blood causes the contraction of the heart, how it acts specifically I cannot determine; Some have objected to its specific action, on the grounds that the heart would become so habituated to its stimulus as to be insensible of its action; that this is erroneous I infer from the Stomach being accustomed to food without losing its stimulability for it. The Heart survives its stimulability from the Brain, this I infer from the effects of the passions on the Heart, and also from Wounds of the Cardiac Nerves. The action of one Artery is sometimes increased, while the others are at the usual stand. I observed the Pulse in one Wrist to beat 100 when one of the fingers of that arm was affected with Paronychia, while the Radial Artery of the other arm was only 70.



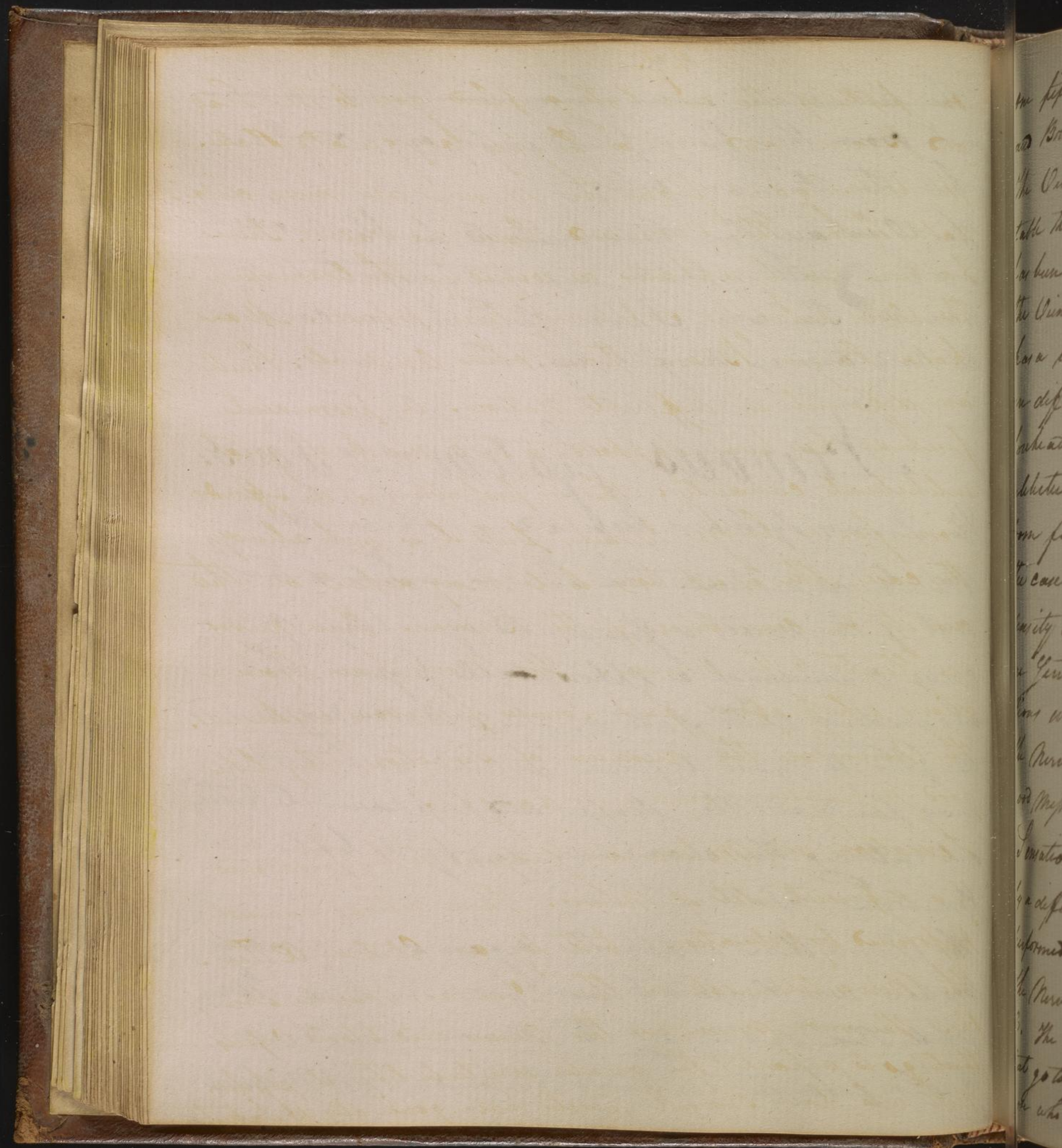
The Arteries are longer than the Veins, as is evident from their being found empty after death, while the Veins are full.

The Veins are sometimes irritated by bleeding with a dull Lancet, which is improperly imputed to a wounded Tendon. I have seen several cases of this kind terminate fatally.

Nervous System & its Laws.

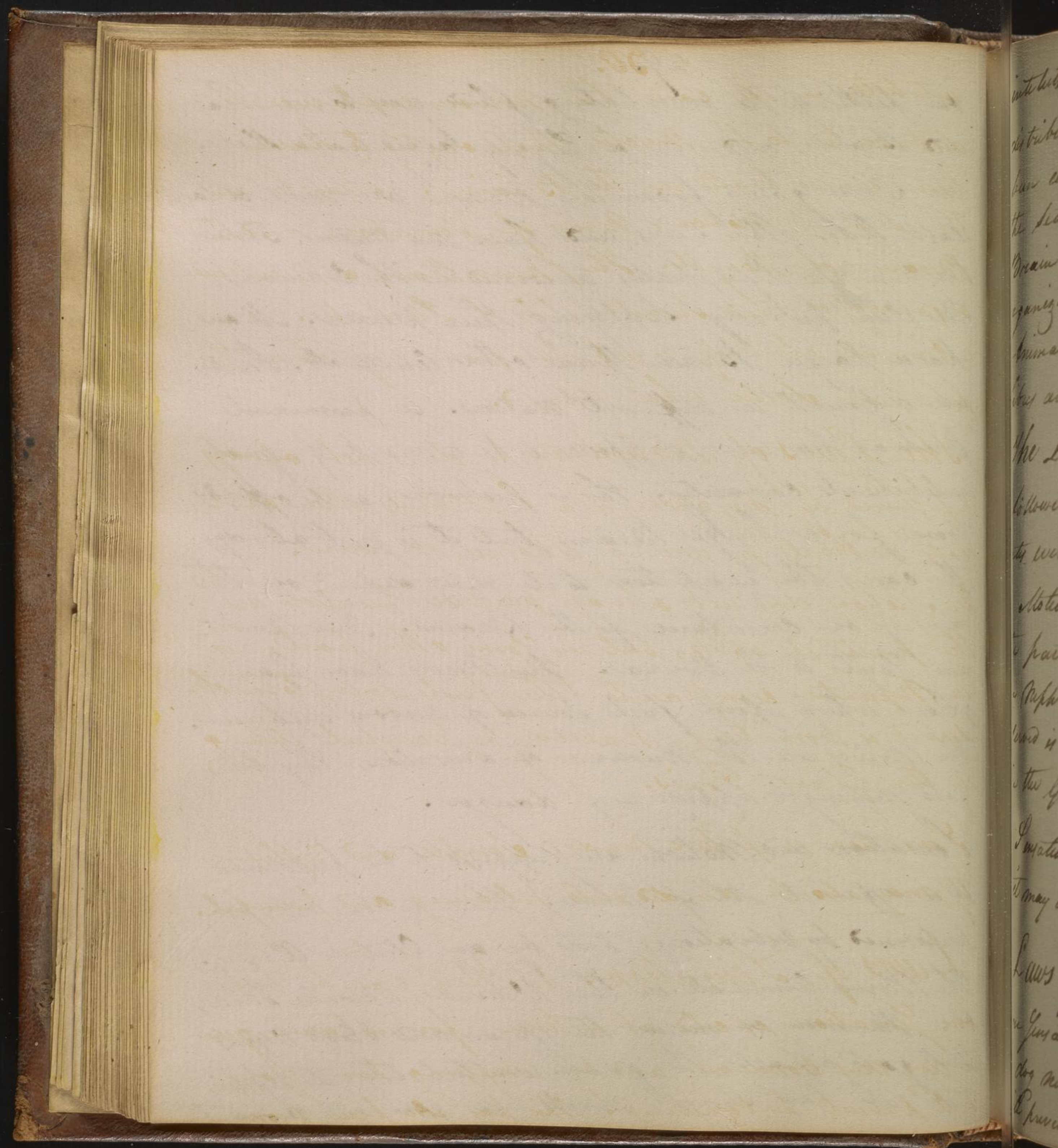
The Nervous System is composed of Brain, Nerves, Muscles, and Mind. The Brain, which is the seat of the Mind, is surrounded by a bony cavity called Cranium of a spheroidal figure and abounding with Sutures; this spheroid figure was designed to defend it from injuries, as a ball may penetrate the scalp and pass round it without entering the cranium, and by it balls are sometimes repelled.

The Nerves that supply the organs of Involuntary motion were supposed to arise from the Cerebellum, while those supplying the Muscles were thought to arise from the Spinal Cord; this, however, is not the case.



one fifth of the circulating fluid goes to the Head and Brain, and is in a highly oxygenated state. The Veins going from the Brain are more dilat-able than other Veins and have no valves. There has been no Lymphatics discovered in the Cranium, the Veins probably supplying their place. Man has a larger Brain than other Animals. Skulls are different in different Nations. A prominent forehead has been supposed to be a mark of great intellectual capacity; this is probable, as it affords room for a large Brain, but it is not always the case, the exceptions to it may depend on the density or consistence of the Brain. The Nerves are sent to the Viscera. The Nerves have Ganglions which afford fresh sources of nervous influence. The Nerves are the medium of Sensation, they like good messengers apprise us of danger.

Sensation and Motion are supposed to be performed by a different set of Nerves: These actions are not performed by vibrations, but by an Electric Ether. The Nerves terminate in the Viscera, Muscles, Skin, &c. The more numerous the Nerves and blood Vessels that go to a part, the greater irritability it possesses. Those who have strongest muscles have generally the least



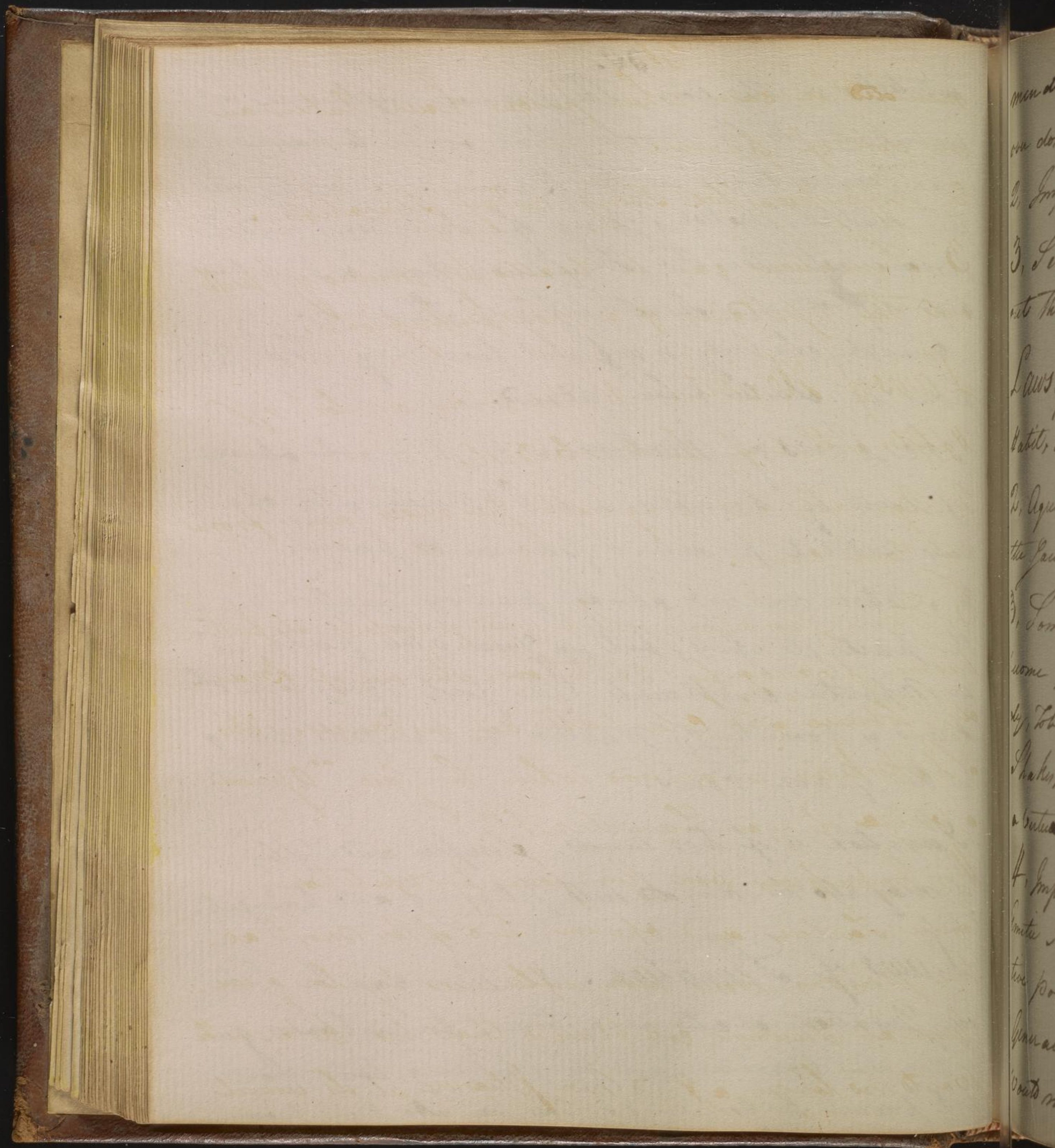
instincts, in this case. The Nervous influence is distributed to the Muscles, that ought to have been concentrated in the Brain. Muscles are the seat of Motion, Nerves of Sensation, and the Brain of Thought. The Nerves have a peculiar organization and susceptibility of Stimuli. Animal elasticity is different from any other, the fibres are elastic when relaxed.

The Laws of Motion are 1, it is not always followed by Sensation, as a Cathartic often operates without producing pleasure or pain.

2, Motion does not always produce Sensation in the part it affects, but in some other part, as in Nephritic complaints the first symptom observed is vomiting, nausea, or painful itching in the Glans Penis.

Sensation is of two kinds, Simple and Reflex, it may also be divided into pleasing and painful.

Laws of Sensation. 1, There can be but one Sensation excited at a time, for instance, give a dog Nut Vomica, and by whipping him you will prevent his vomiting. This has also been accom-



mentioned in cases where persons have taken an over dose of opium.

2, Impressions too strong, destroy sensation.

3, Sensations can be recalled by Memory, without the assistance of a new impression.

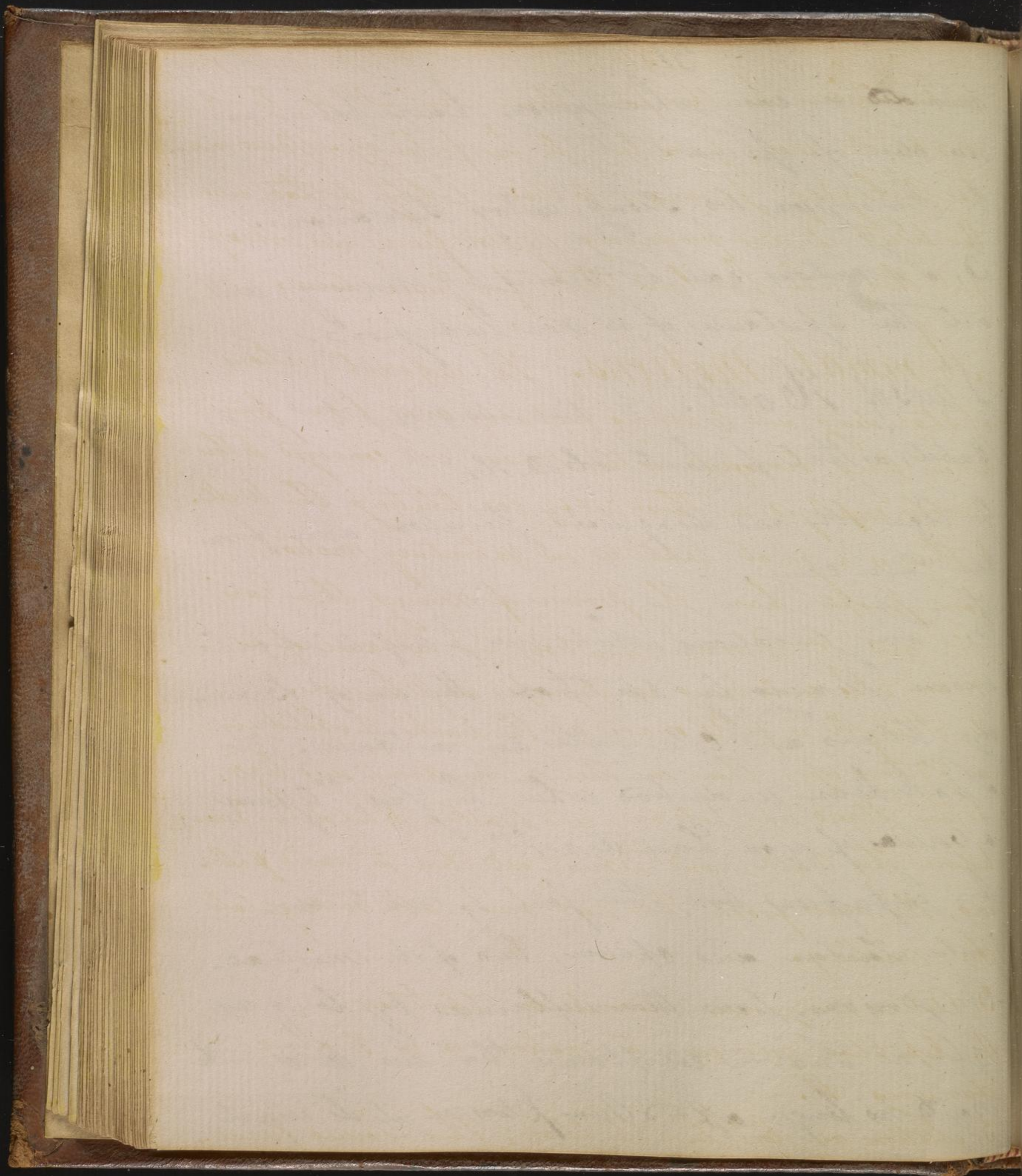
Laws of Habit. 1, Sensations are lost by Habit, as that of heat & Cold, &c.

2, Agreeable and disagreeable sensations arise from the same cause.

3, Some sensations which were painful at first become pleasing by repetition, the use of Brandy, Tobacco and Cold baths are instances. This Shakspeare understood when he said, "Assume a virtue if you have it not."

4, Impressions lose their force by repetition; Emetic Tartar and opium, two of the most active poisons, lose their influence by long use.

General Scurrow complained that his Cold-bath would no longer afford him pleasure at its usual



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temperature, he then pour three Ice into it to make it more grateful to his feelings. Miasma- to so highly Poisonous to those lately settled in the West Indies producing Yellow fever, did not af- fect those who had lived there for some time.

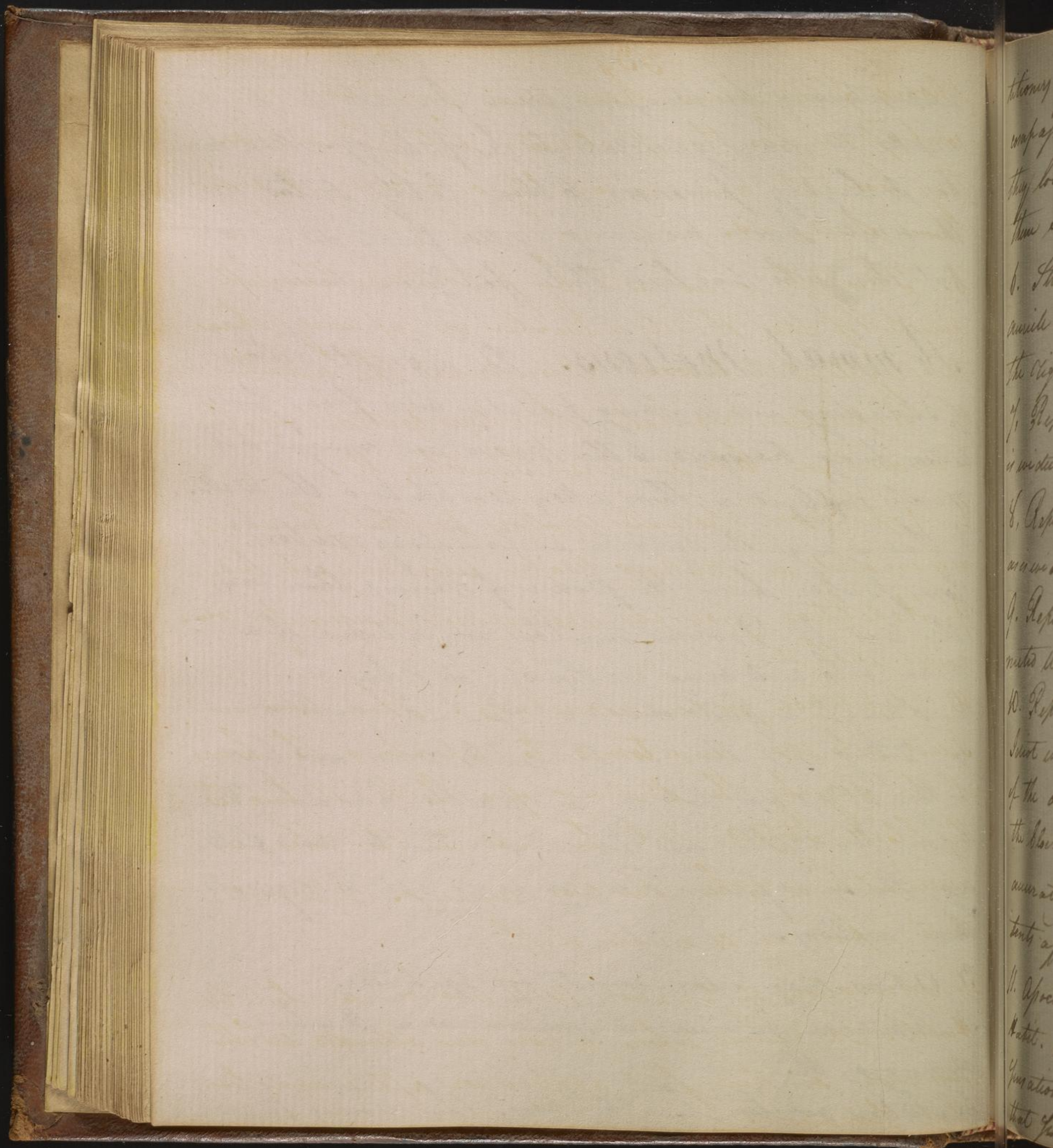
Animal Motions. The different actions of standing and walking probably arise from some actions being transferred to the Brain and conveyed to the Muscles employed in those actions constituting the Will.

1. There is a great latitude in voluntary motions, some people have the power of moving their Ears, &c. and Dr. Darwin mentions an instance of a man who could bring on Syncope at pleasure.
2. Strength is first observed in the back of children in getting up, then in the neck, arms, and legs, as they stand up, hold on, and walk. Children run before they walk, and Dunc and run to avoid fall- ing; this arises from their not being able to regulate their motions.

3. Actions may become correct by repetition.

4. Repetition gives ease to motion, as in Skating, dancing, &c.

5. Motions are lost by repetition; thus young prac-



tionary of Medicine have great Sensibility and compassion for their patients, but by repetition they lose it, and irritability or a desire to cure them succeeds.

6. Strength is increased by practice, the left auricle of the Heart is weaker in infancy than the right, but becomes stronger in the adult.

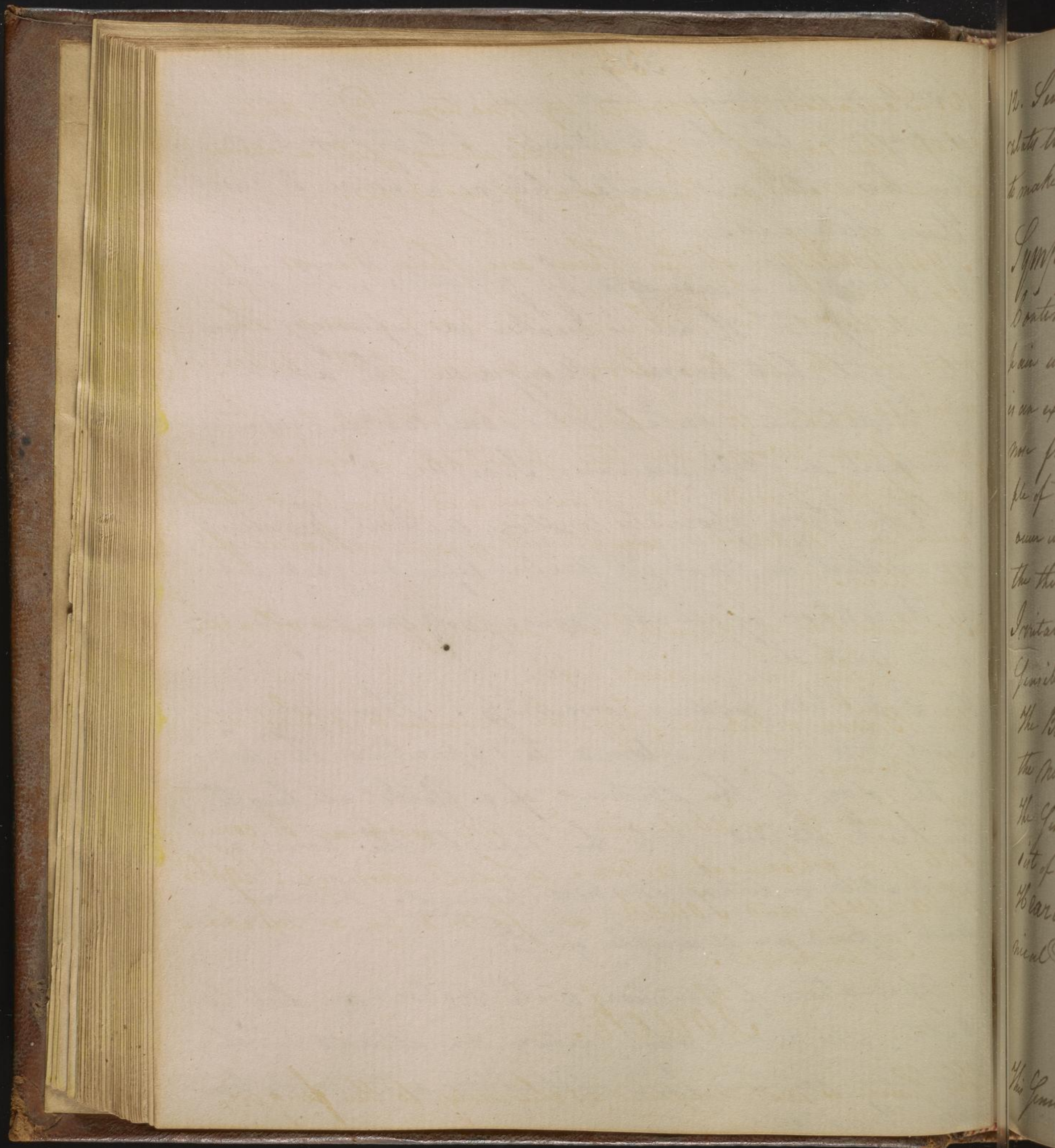
7. Repetition regulates muscular contractions, this is evident in Rope dancers, Tumblers &c.

8. Repetition associates motion without sensation, as is evident in making water before we go to bed.

9. Repetition associates motion not necessarily connected with it.

10. Repetition produces correctness. There was an idiot who was accustomed to repeating the hours of the day by the striking of a clock, at length the clock stopped, but he repeated the hours as accurately as when she was running. Intermittents afford an example of this.

11. Associations of sensation with motion are lost by Habit. Physicians whose actions are attended with sensation on their first application afterwards lose that sensation.



12. Sensations are followed by motion. Dr. White relates the case of a man, who always felt a desire to make water on hearing a Bag-pipe.

Sympathy, of this there are three kinds, 1. Continuous, 2. Delusive, 3. Contiguous. The pain in the luthra from affection of the uterus is an example of the first. The itching in the nose from worms in the Intestines, is an example of the second. The nausea and vomiting that occur in Nephritic complaints is an instance of the third.

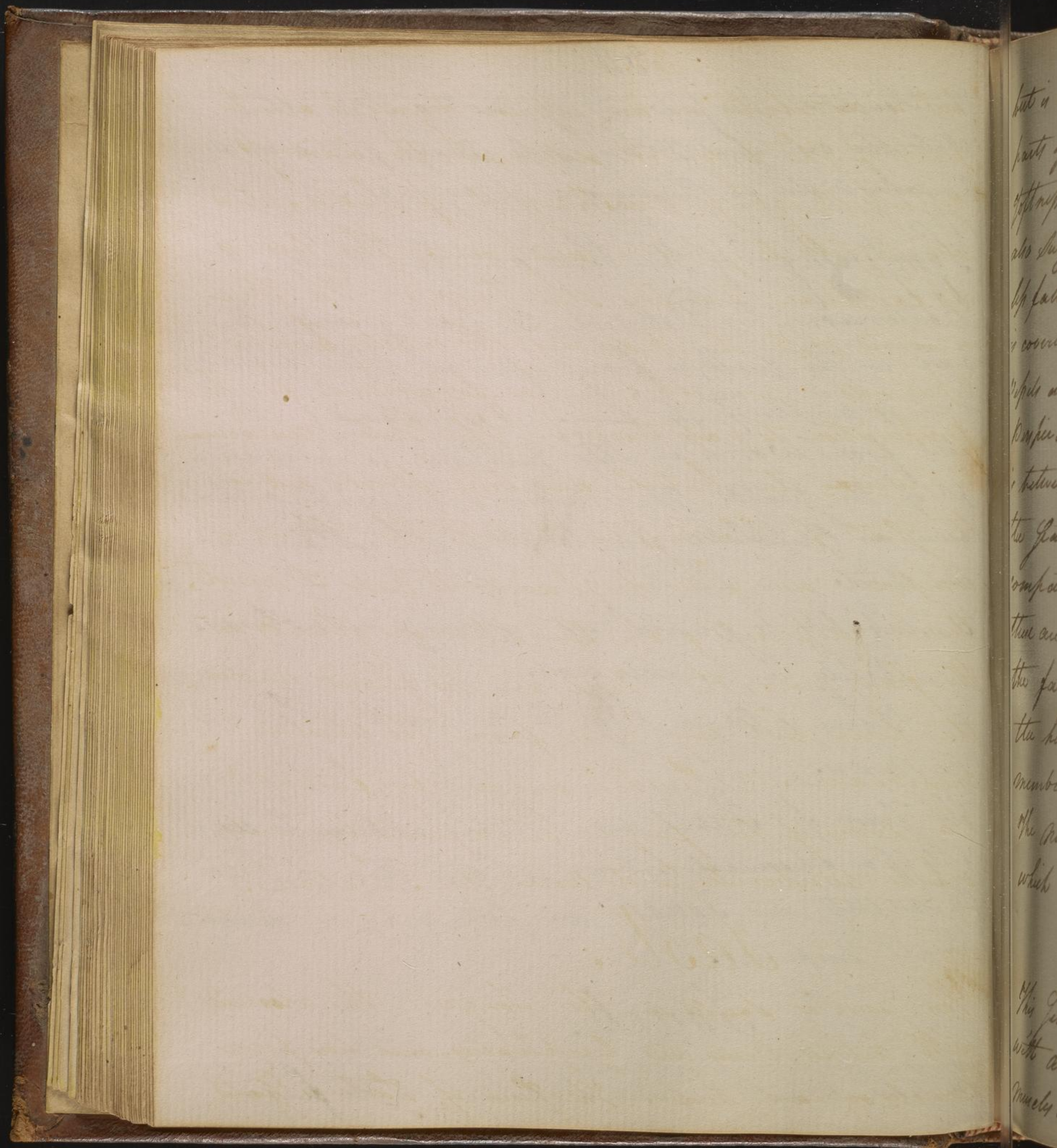
Irritability is greatest in infancy and old age; Sensibility in middle age.

The Brain is like a city, the avenues to which are the nerves.

The Senses of Taste and Smell appear to consist of a chemical action, whilst those of Sight, Hearing, and Touch, are formed by a mechanical impulse.

Touch.

This sense is not confined exclusively to the fingers,

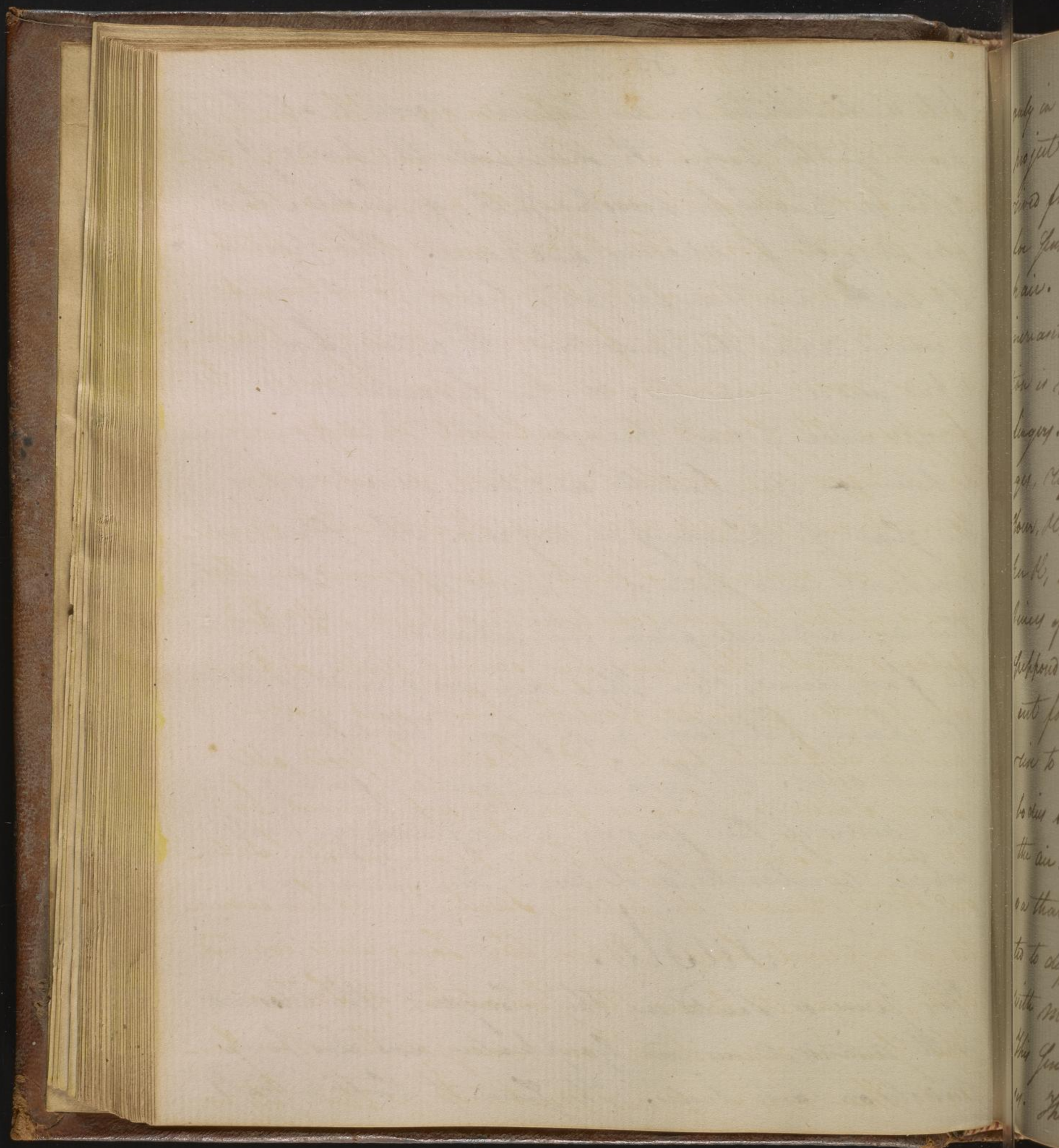


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but is distributed in an inferior degree to all the parts of the body. It determines the hardness, softness, toughness, smoothness, &c. of bodies, it is also subject to pleasure and pain. This sense is less fallacious than the other senses. The skin is covered with the Epidermis, this cuticle has no vessels and is insensible; it has foramina for the perspiration to pass through. The Rete mucosum is between the cuticle and true skin, and is the seat of blackness in Negroes. The skin is compact and full of glands to keep it moist, these are different from the sebaceous glands in the face, arms, &c. There are no glands under the hair, but they arise from the cellular membrane. Touch is increased by fasting. The nerves of the fingers are defended by nails, which reverbate, as it were, the Sensation.

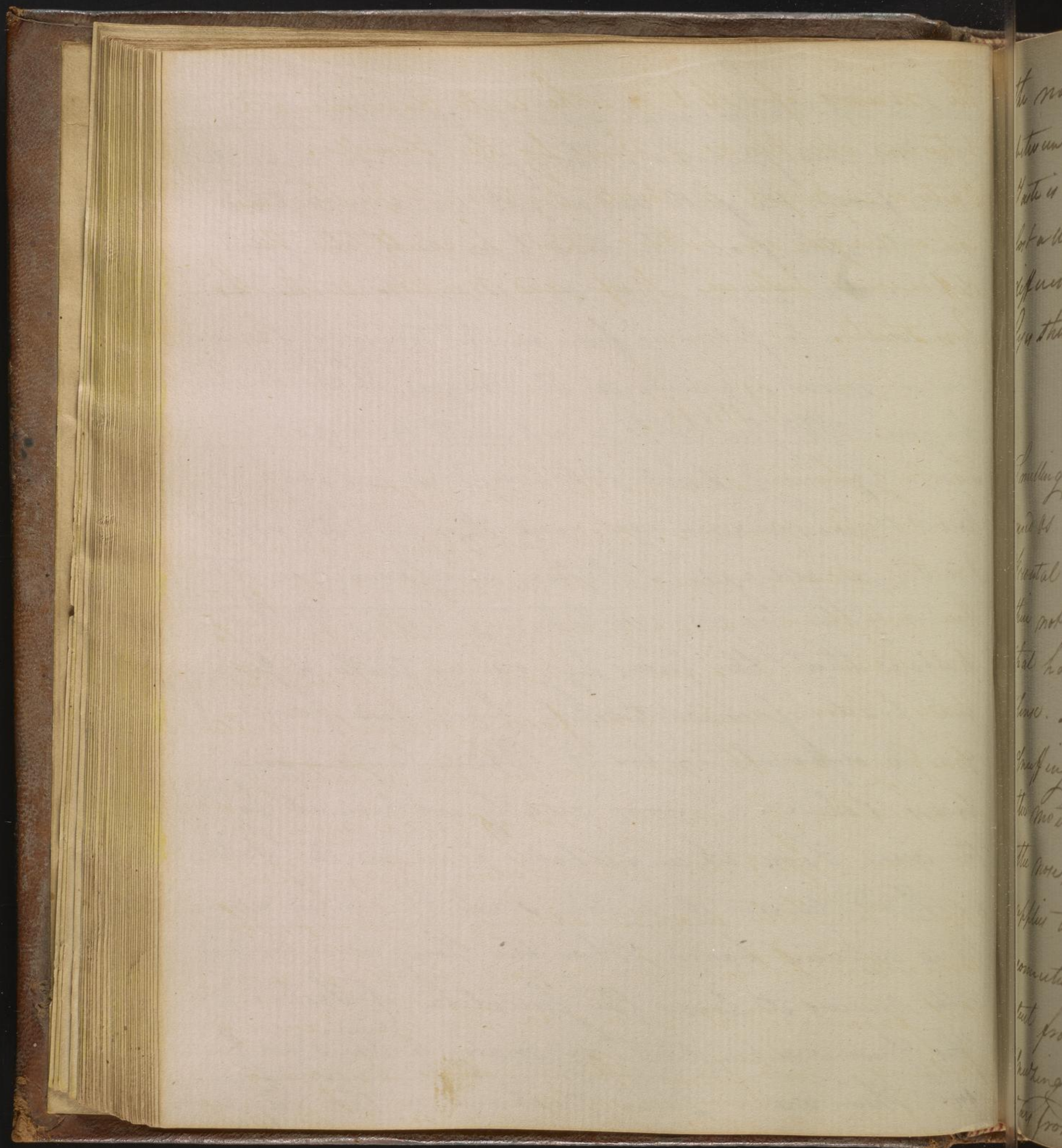
Taste.

This sense is seated in the Tongue; this abounds with arteries, veins and lymphatics, and has four muscles on each side. The sense of Taste is seated



only in the tip and edges of the Tongue. The Nerves project into papillae, those for motion are derived from the first and ninth pairs, and those for sensation from the third branch of the fifth pair. The actions of the Organs are sometimes so increased as to form a fur on the tongue. Sensation is more exquisite in the tongue, than in the fingers. Its sensibility is different in different ages, requiring Sweet substances in infancy, Sour, &c. in middle age, and stimulant, as pepper &c. in old age. Solutions are formed in the juices of the tongue constituting taste. Dr. Reid supposed that this juice by joining with different foods, formed different bases, and gave rise to different tastes. Dr. Baker supposed all bodies saline. Taste is greatly influenced by the air. Some changes take place in the Saliva that render it bitter, Sweet, &c. when united to different bases. When the Tongue is covered with mucus it loses the sensation of Taste.

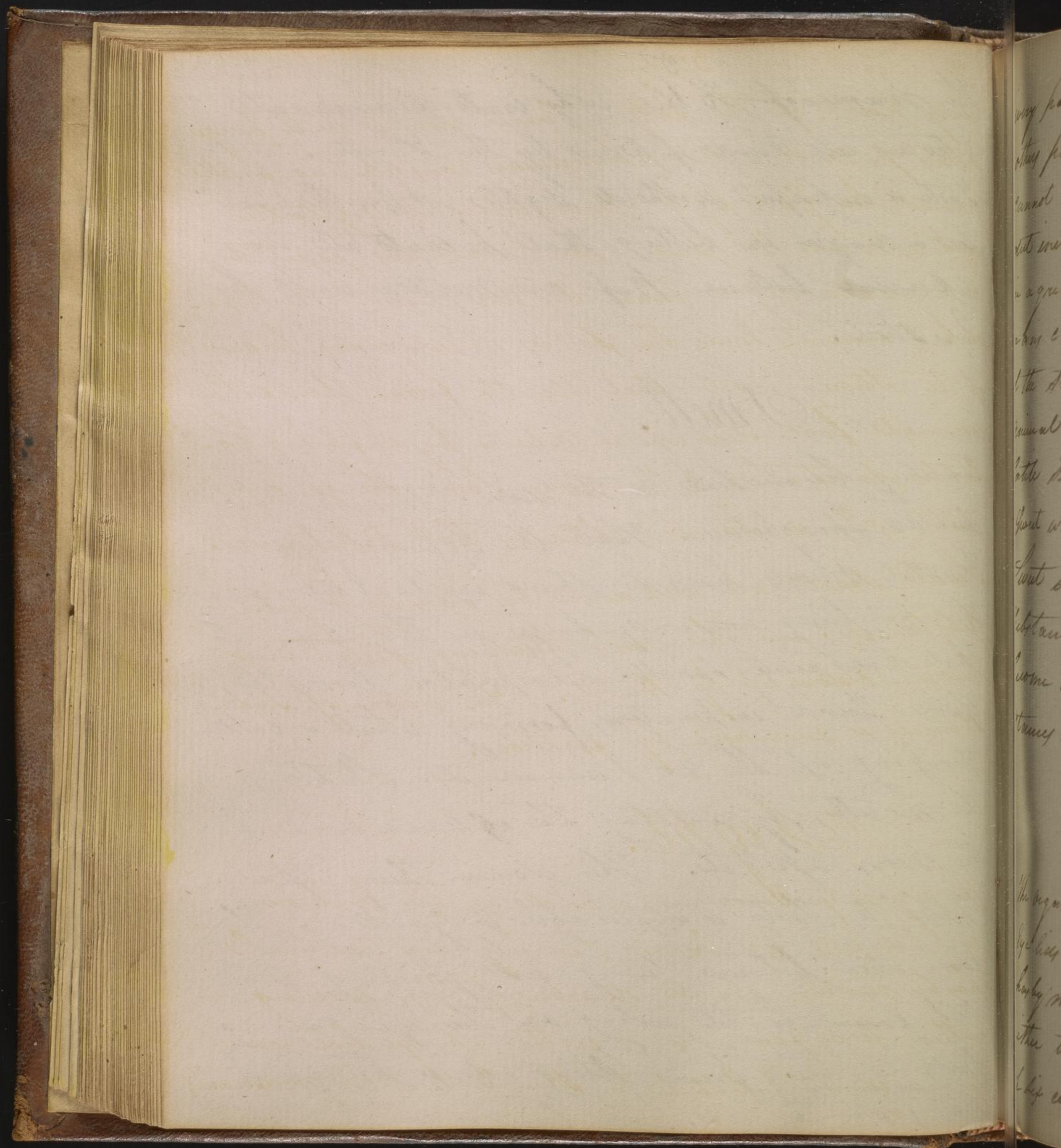
This Juice is dependant on many of the other Juices. There was a Wine Merchant in this City by



37.
the name of ^W Hille, who could discriminate
between all kinds of wine by the Smell.
Taste is imperfect without sight. A gentleman
lost a wager on betting that he could tell the
difference between Beef and Mutton with his
Eyes shut.

Smell.

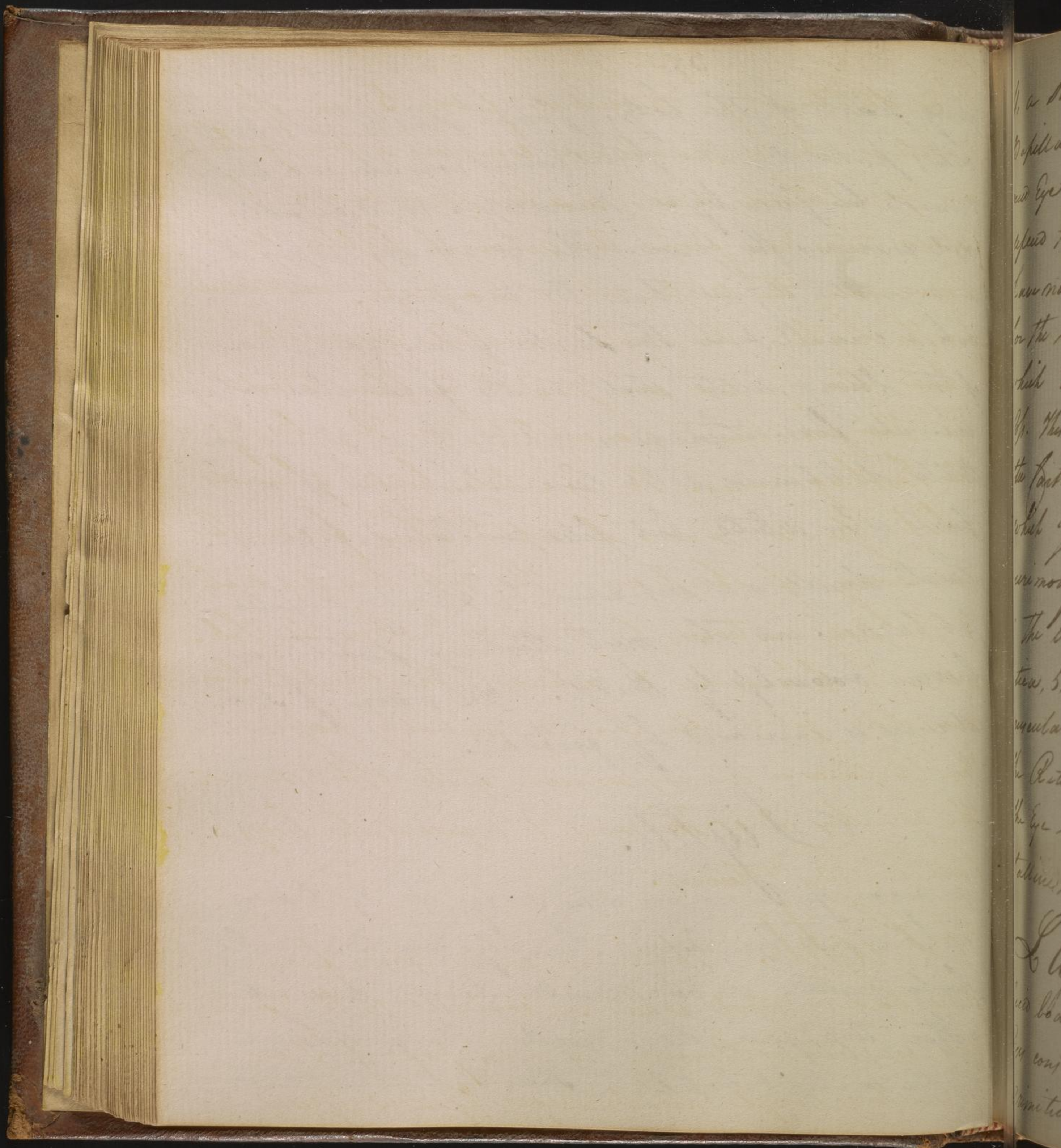
Smelling has its seat in the Nose. Ethmoid bone
and Os Sphenoidale. That the Sphenoid bone and
Frontal Sinus, have no share in it I infer, from
their not being unusually large in those Animals
that have acute smell. Inspiration forms this
Sense. Quick inspirations, forming what is called
snuffing up the nose, increase it. Shutting
the mouth, by directing the effluvia more to
the nose, assists it. The same theory that
applies to Taste is applicable to Smelling. The
connection between seeing and Smelling is evi-
dent from light acting on the Eye causing
snuffing, and from strong odours bringing
tears from the Eyes. This Sense is connected with



every part of the body; Some Smells will purge
 others purge, &c. The particulars constituting Smell
 cannot be seen by a Microscope. A Vegetable
 diet increases this sense. The Arabians possess it
 in a greater degree than the Europeans. The Bra-
 mians cannot bear the Smells of Europeans, because
 of the strong scent that results from their eating
 animal Food. Syncope is relieved by applying Ro-
 tatile Substances to the nose. Some things are
 sweet when diluted, but fetid in the substance.
 Sweet Smells are enhanced by smelling fetid
 Substances, and the most stinking Substances
 become odourless by Heat. The odor of Sub-
 stances is increased by friction.

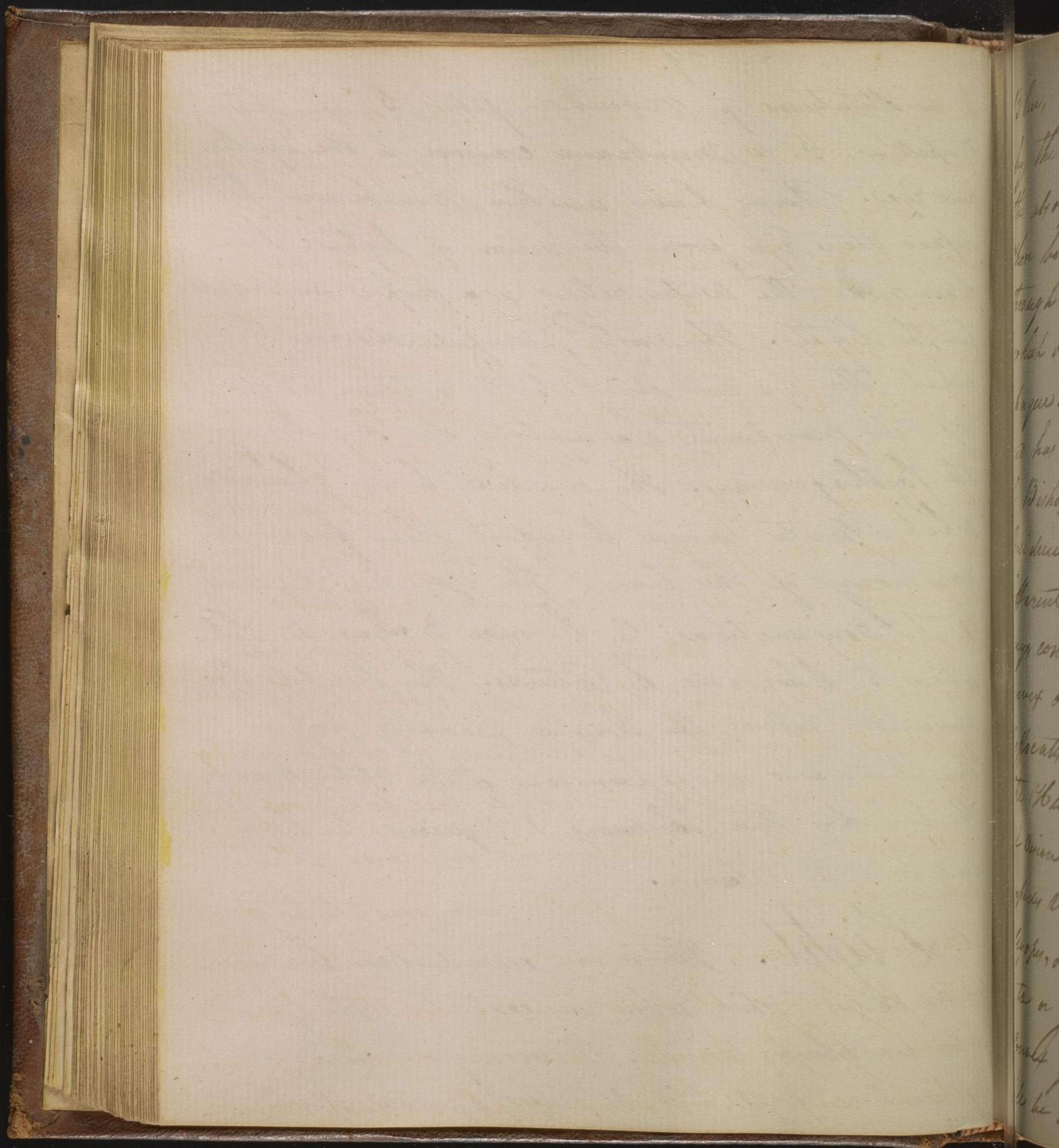
Sight.

The organs of Vision are defended by the Eyebrows,
 Eye-lids and Eye-lashes. Scarcely any Animal
 has by nature an odd number of Eyes, having
 either two, four, six, or eight. The Eye-lids consist
 of six coats, 1. Cuticle, 2. Skin, 3. Cellular membrane,

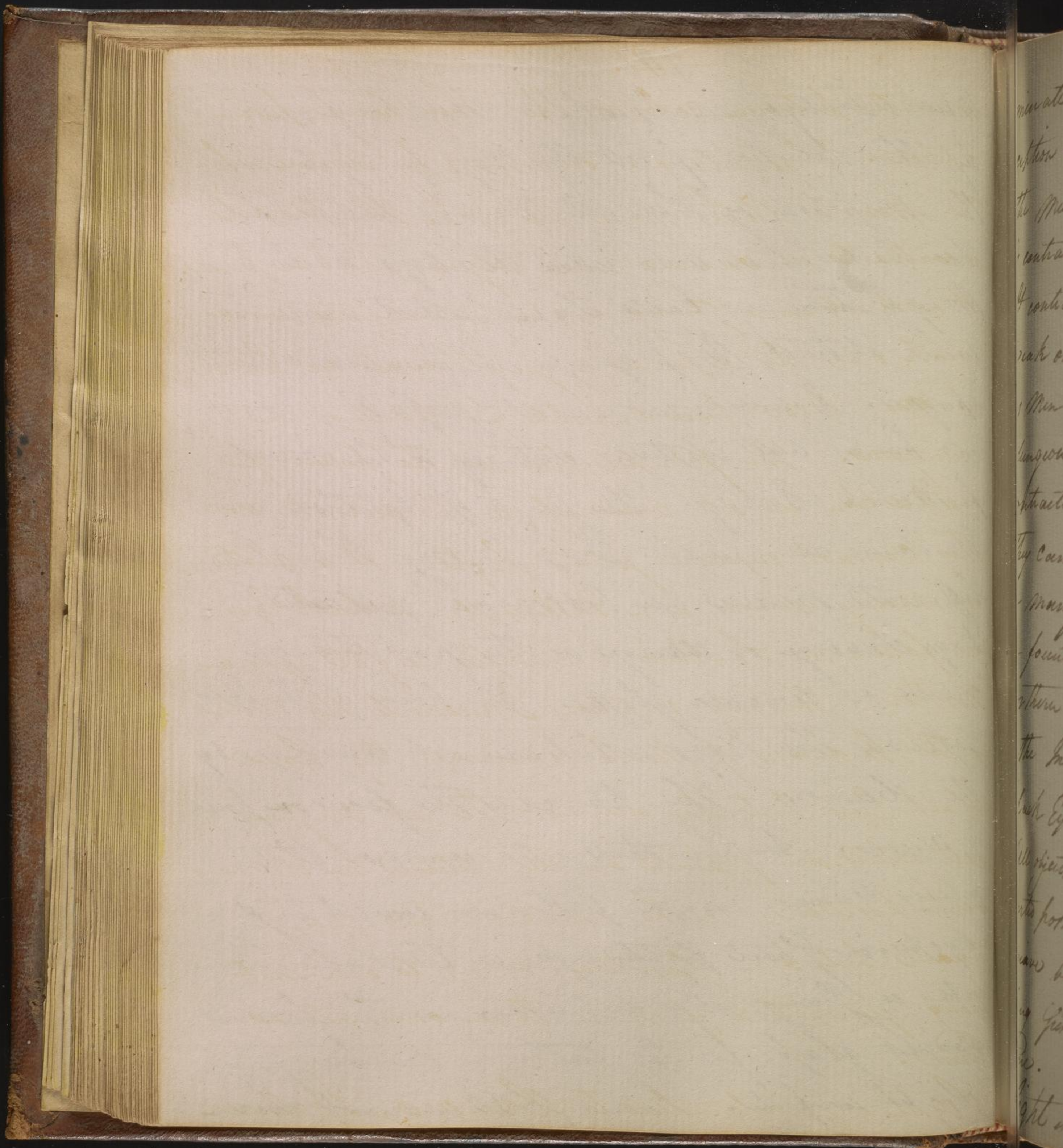


4, a stratum of muscular fibres, 5, one of Papilla, 6, a membrane common to the Eyelid and Eye. Birds have another membrane to defend their Eyes from the action of light. Fish have none, the water acting as a proper medium for the light. The most painful disease to which the Eye lids are subject is their total loss. This punishment was inflicted on Regulus by the Carthaginians. The Eye lids have glands which secrete mucus to defend them from the acrimony of the tears. The Eye has six coats, 1, The Conjunctiva, 2, Cornea, 3, Iris, 4, Sclerotica, 5, Choroides, 6, Retina. The Pupil has muscular fibres; the Iris is probably passive. The Retina is an expansion of the optic nerve. The Eye has three Humors, 1, Aqueous, 2, Crystalline, 3, Vitreous.

Light. This is an emanation from lucid bodies, which when in contact with sound Eyes constitutes Vision. It is composed of seven primitive Rays, Red, Orange, Yellow, Green,

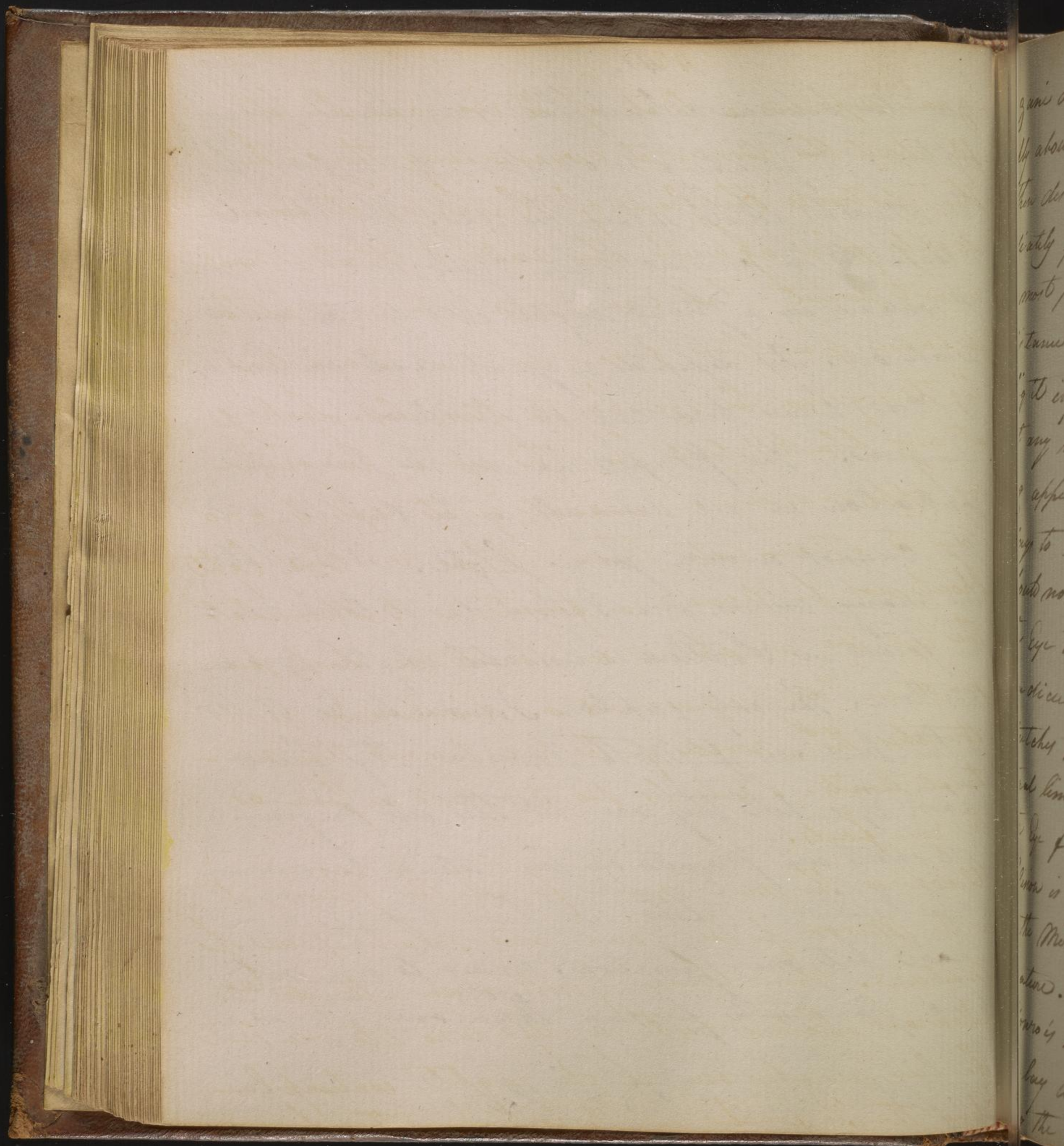


Blue, Indigo, and Violet. White is formed by the reflection of all the rays of light, and the absorption of them all produces blackness. Those bodies that will allow the rays to pass through them are called transparent, and those which obstruct the passage of them are called opaque. Colour is an inherent property of bodies, and has a real existence contrary to the opinion of Bishop Berkeley. The angles of Reflection and Incidence are equal. Rays passing through different media are broken or refracted. Rays converge or diverge as they pass through convex or concave glasses. The lens of the eye supplants those rays which are not converged by the humors. The retina is the focus or point of vision. An eye that is too convex, or flat, impedes vision, in the first case constituting Myopia, or short sightedness, in the latter Presbyopia or failing at a distance; for the former a concave glass, for the latter a concave glass, will be useful. Some people cannot discri-



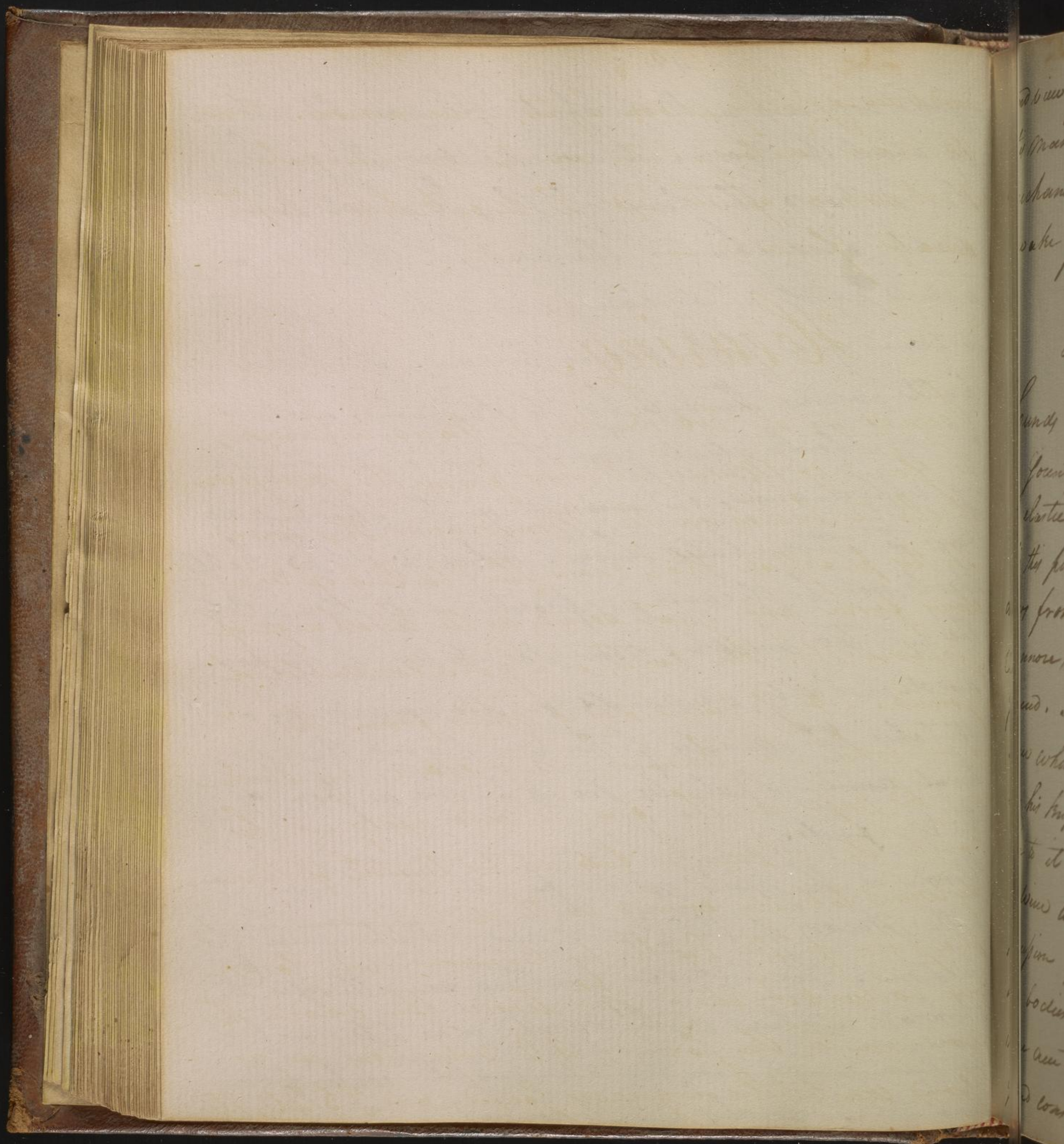
-minute between colours tho' they have per-
 ception. Squinting is occasioned by disease of
 the Muscles that move the Eye. The Pupil
 is contracted in viewing near objects, and vice versa.
 It contracts in a strong light and dilates in a
 weak one; this depends a great deal on Habit,
 as Men have been capable of reading in a
 dungeon. The Pupil has not the power of
 contraction in all Animals, as the Owl, &c. and
 they cannot endure solar light. It is dilated
 in many diseases, as in Pthiris, &c. Black Eyes
 are found in Southern Climates, light Eyes in
 Northern: The only exception I know to this rule
 is the Indians of North America, they have
 black Eyes, but they are not the ab origins.
 All objects are painted on the Retina in an in-
 verted position. Altho' we have two Eyes, we
 receive but one sensation, owing to our not
 being susceptible of more than one, at a
 time.

Sight is nearly allied to Hearing; Spallan-



-Zani deprived a Bat of its Eyes and let it fly about the room, it avoided every thing; he then destroyed the sense of Hearing, it immediately flew against the wall. That Vision is most perfect that can be had with care at the distance of a foot from the Eyes. Sudden light injures the Eye by its stimulus. Looking at any black object gives the Eye a languishing appearance, on account of its reflecting no rays to stimulate them. When we read, light should not be decur in front, as it stimulates the Eye too much; nor should we look perpendicularly upwards or downwards, as it stretches the muscles of the Eye beyond their natural limits. Spectacles should be used as soon as the Eye fails.

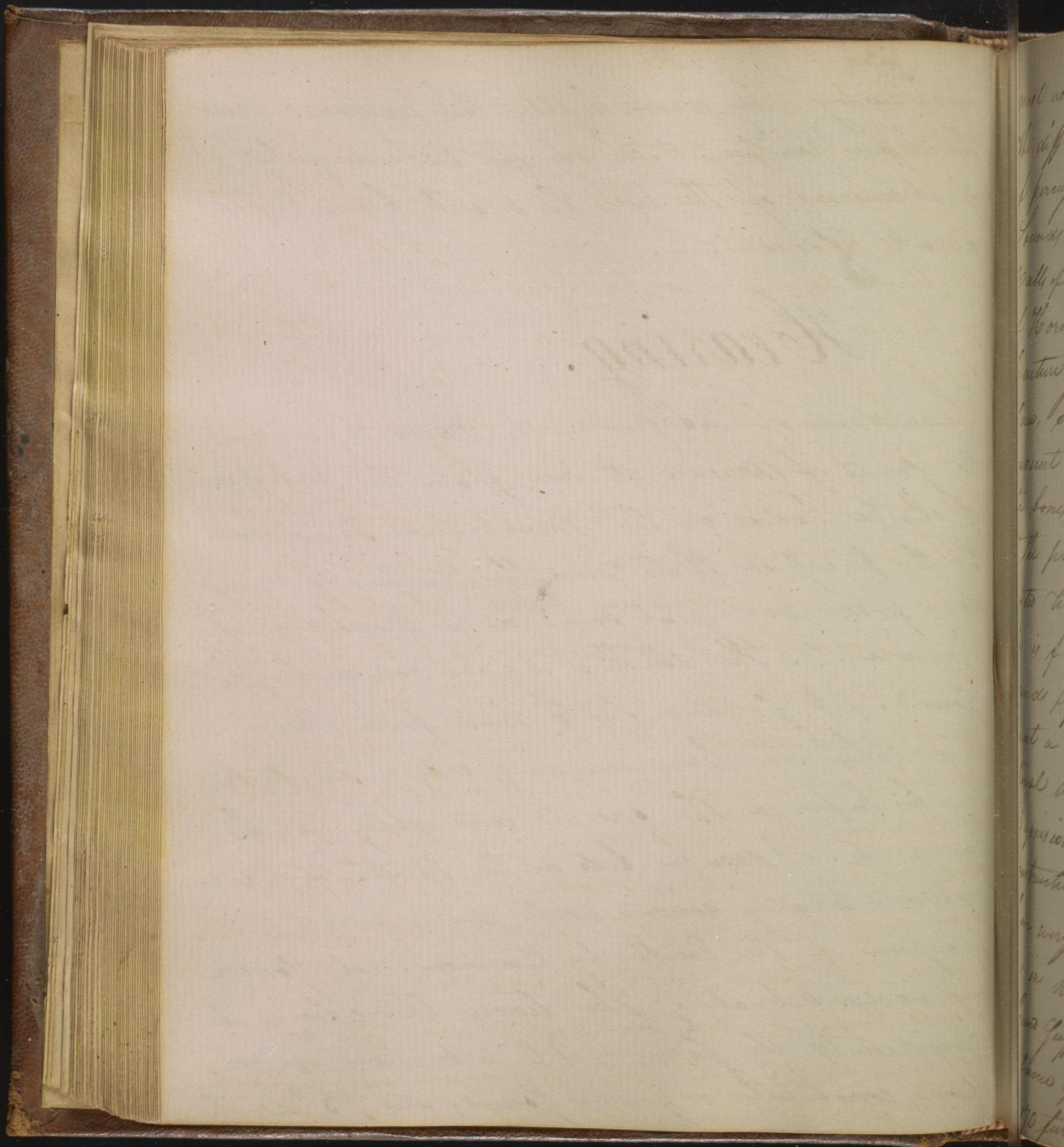
Vision is the most noble of all the senses, it is the Mirror of the Soul, and Master-piece of Nature. There was a Gentleman an attenuated Dr. Moore is lecturing with myself, who tells me that he lay awake one whole night, contemplating the Porphyry and Porphyry at the S.



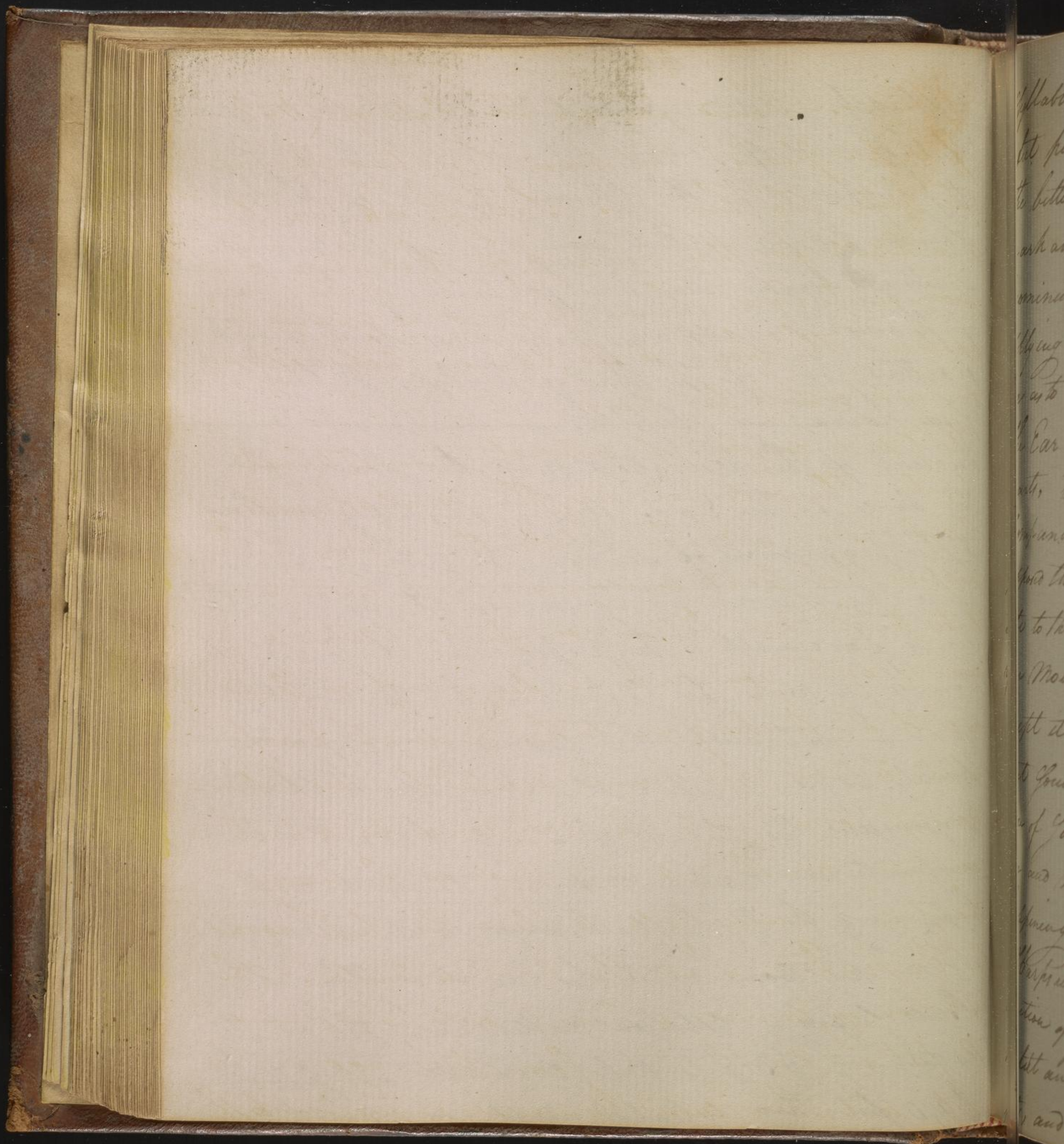
and viewing, by moon light, their action. Had this man contemplated on the wonderful Mechanisms of the Eye, he would have kept awake forever. —

Hearing.

Sounds are of two kinds, 1. Noise, as Cannon, 2. Sound of Music. It arises from the percussion of elastic bodies on the Membrana Tympani. It is this percussion that causes the rattling of windows from any great sound, as the Discharge of Cannons, &c. The earth is a good conductor of Sound. A Soldier, sixty miles from this city, knew when the Cannonading ceased, by sticking his knife in the ground and applying his Ear to it. I saw a field at the Battle of Brandywine totally covered with dust, from the percussion of the Earth by Cannon. All honourable bodies vibrate. The tinner the chord, the more acute the sound. 40 vibrations in a second constitutes a grave sound, and 7520, the



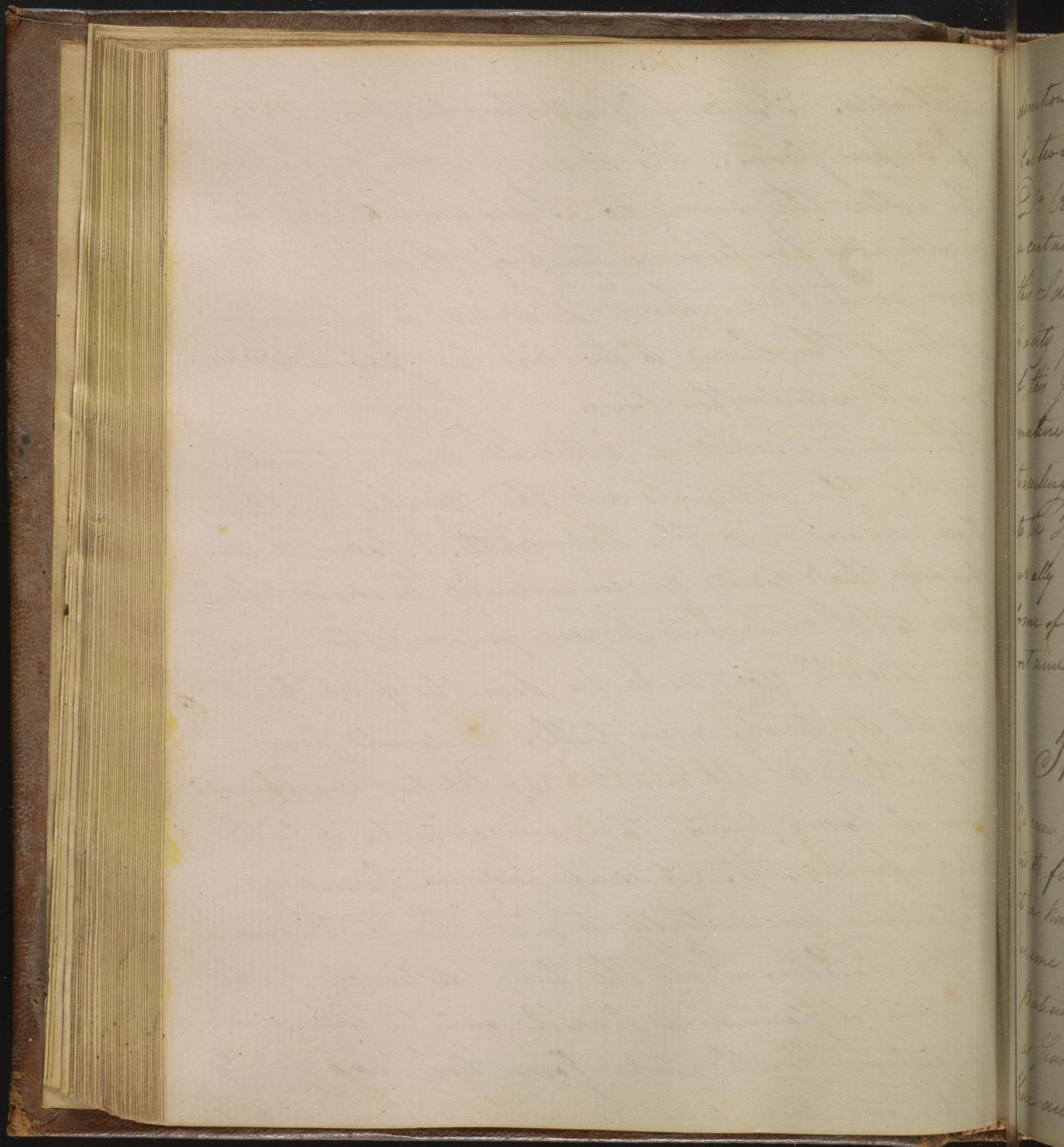
most acute. All vibrations below 30 produce no sound. The difference of sounds depends on, 1, the force of percussion, 2, the tension, 3, the size, &c. of the body. Sounds produce violent concussion of the air. The walls of Aricho were laid prostrate by the sound of Horns. Sounds are sometimes so acute as to fracture some of the bones of the ear. Hissing a gasp, scraping glap, &c. are disagreeable on account of the vibrations being too short for the bones of the ear. Air is absolutely necessary to the production of sound. A Bell in an exhausted receiver admits no sound. Elasticity of the air is favourable to the propagation of sound. All sounds fly with the same velocity, tho' not to so great a distance. It is increased by passing thro' spiral bodies, as shells, &c. It is reported that Dionysius the Tyrant of Sicily had a Prison constructed in such a manner, that he could hear every whisper that escaped in it, when sitting in his room with his ear at a spire. Sound suffers a reflection called Echo, this at the distance of 63 feet will reiterate one syllable; at 170 feet, two syllables; and at 190 feet it



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Syllables. Sound flies at the rate of 1142 feet per second. The more projecting the Ear, the better the hearing. Savages, who are remarkable for their acuteness of hearing, have prominent Ears, hence hearing is assisted by applying the hand to the Ear in such a manner as to collect the rays.

The Ear is composed of internal, and external parts, the internal are, The Malleus Auditorius, Tympanum, and the Labyrinth. Some have supposed that sound was conveyed by the Eustachian tube to the Ear, but if you put a watch in your mouth you will be sensible of no sound except it touches your teeth, a direct proof that sound is not conveyed except by the vibration of some parts that are connected to both Ear and mouth. A deaf lady in Germany happening accidentally to place her teeth against a Harpsichord, heard the tune distinctly. The direction of sounds is learnt only by experience. We felt an Earth quake some time ago in this City, and there were numerous opinions as to the

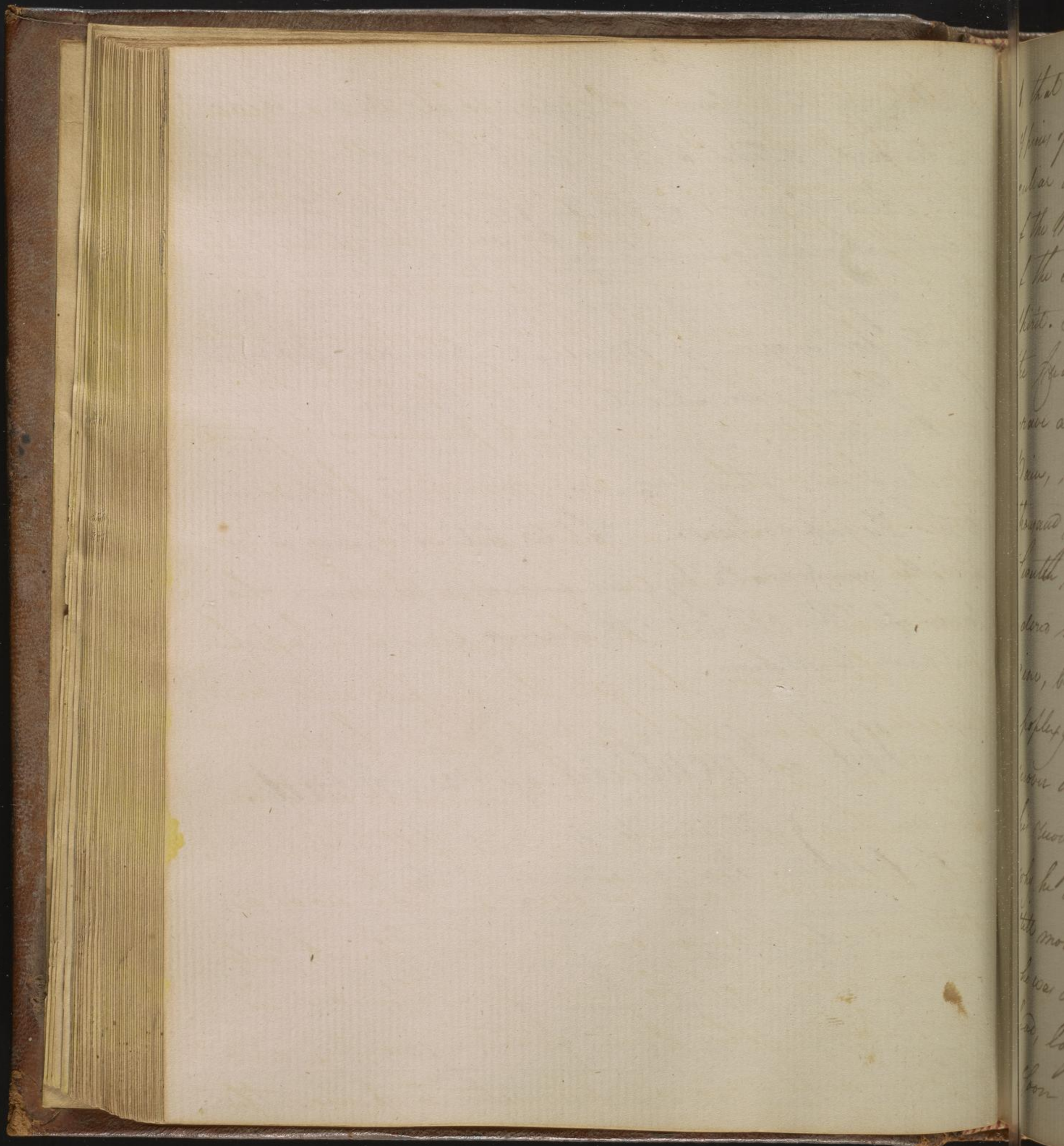


direction of it, some supposing it to be to the Eastward, others to the Westward, &c.

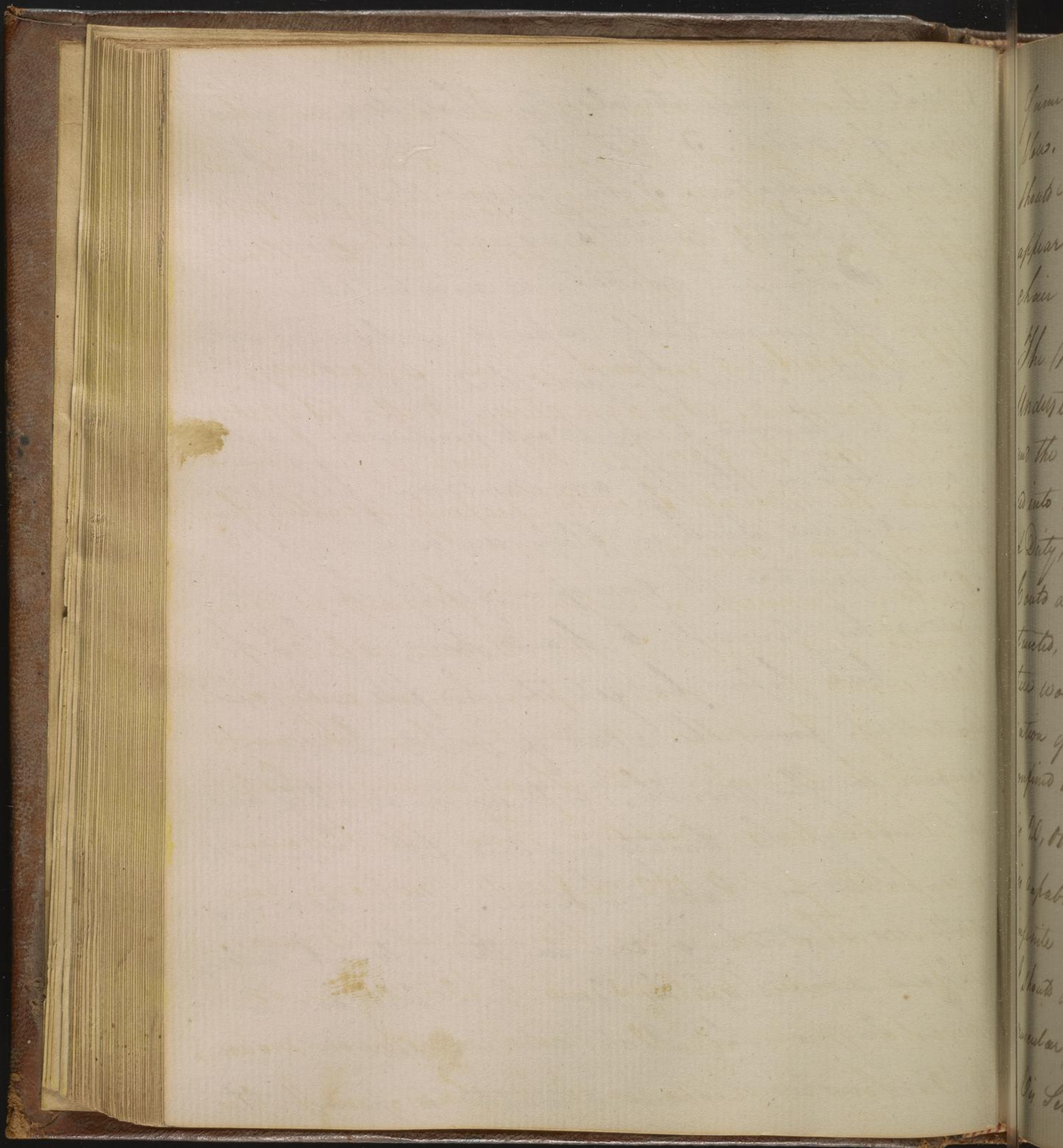
Dr. Reid supposes a taste for music requires a certain arrangement of the parts of the Ear; this I deny. Every person has an innate capacity for acquiring Musical sounds, deprived of this sense, says Licut, is to suppose a premature death. Some people hear best when travelling on stony roads, this gives a tensity to the Tympanum. The want of sense is generally compensated by the increased acuteness of some of the others. Hearing is next in importance to Vision.

The Faculties of the Mind.

We come now Gentlemen to speak of the human mind and its faculties. Be not startled at the sound; without a knowledge of this science let not the Physician presume to enter the cells of an Hospital, or visit a patient in the delirium of a fever. The mind is as susceptible of impression as the organs of sense. There are three opinions in regard to the mind,



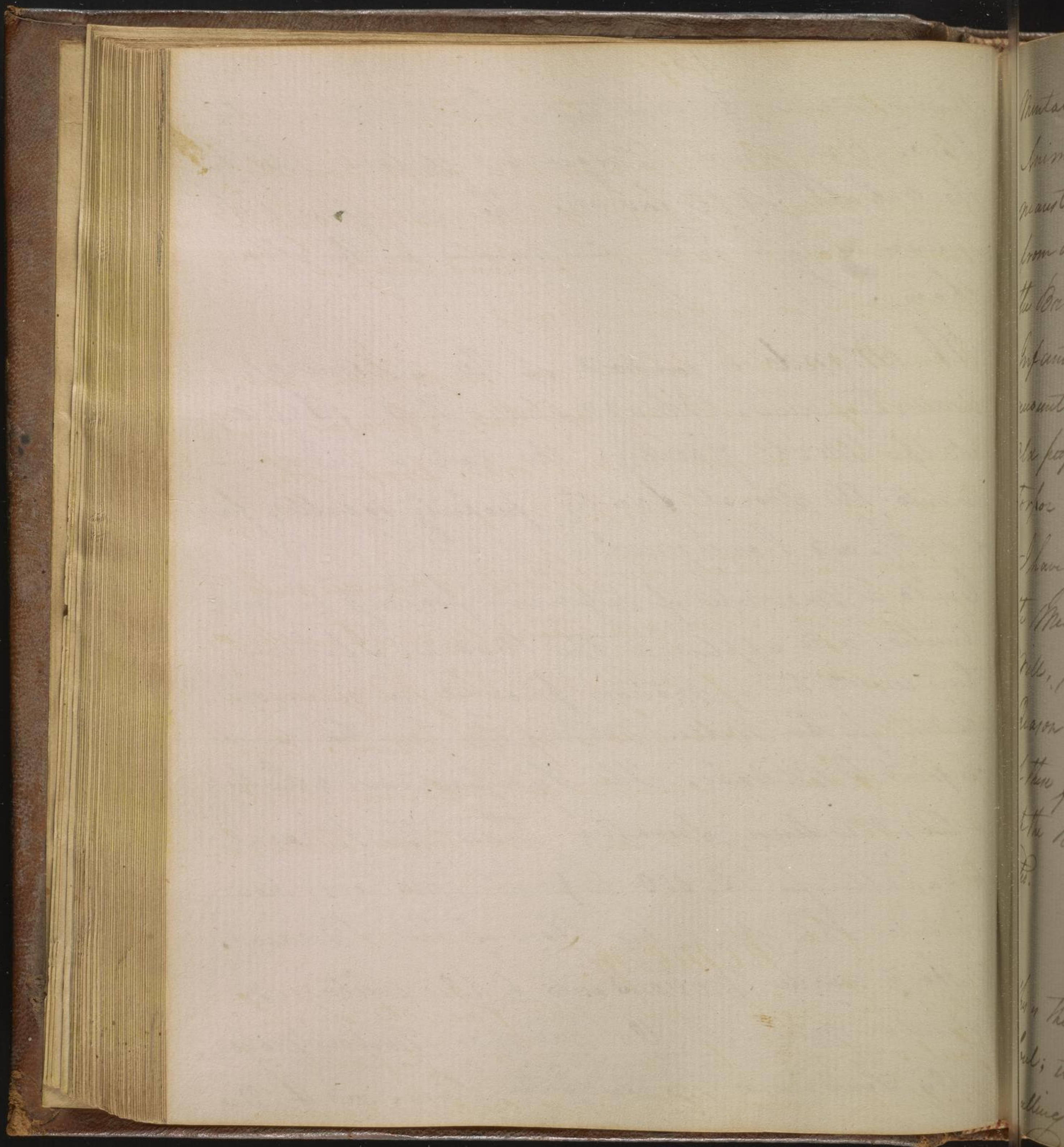
1. that it is immaterial. 2, that it is a refined species of Matter. 3, that it is the result of a peculiar organization. Some suppose that the opinion of the Materiality militates against the immortality of the Soul, but matter is as indestructible as Spirit. Its immortality depends exclusively with the Creator. Some suppose that lying in the grave a thousand years would produce a negative Pain, but in this they are mistaken, for a thousand years spent in sleep are as a day. You South mentions the case of a gentleman who ordered his servant to hand him a glass of wine, but before he got it he fell into an Apoplexy, from the effects of which he did not recover in six months, but immediately on his recovery he hastily enquired of the servant why he did not hand the wine. There was a still more striking case in this city. A Sailor, who was deprived of his senses by a blow on his head, lay in this state fourteen months, and as soon as he recovered attempted to pursue the



same work he was at when he received the blow. Our great Progenitor Adam, tho' he should have slept for six thousand years, will appear as if he had just nodded in his Elbow chair.

The Mind is composed of the Memory, Understanding, Imagination, Will, Passions, and the Moral Faculty; this last is subdivided into the Moral Faculty properly so called, Sense of Duty, and Conscience.

Could a microscope of sufficient fineness be constructed, and applied to the Brain, I believe there would be a motion perceived, in every operation of the Will. Motion has been too much confined to Muscles. The Tympanum, which is 20,000 times smaller than the Brain, is capable of 20,000 different motions; how infinite then must be those of the Brain. I should divide Motions into 1, *Vis insita*, or Muscular motion, 2, *Vis nerva*, or Nervous motion, 3, *Vis sensoria*, or Motion of the Senses, and 4, *Vis*



Mentals, or action of the Mind.

Animals, whose Brains are proportionally
meant their Heart, have most thought,
from a larger quantity of blood being sent to
the Brain in a given time.

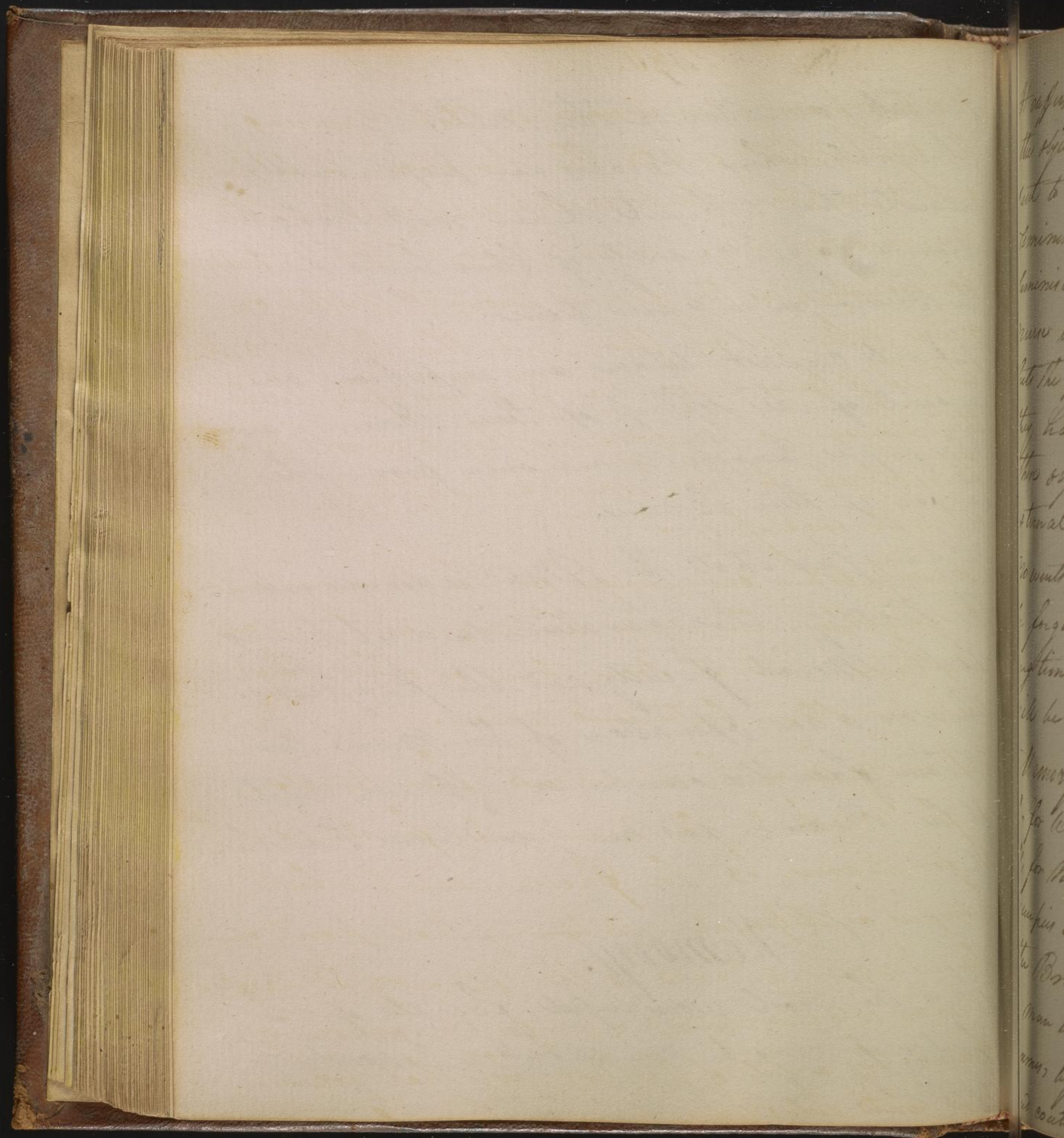
Infants cannot retain an impression, on
account of the softness of their Brains; and
old people cannot receive one, from the
torpor of their Brains.

I have said that the Mind is divided into
the Memory, Imagination, Understanding,
Will, Moral Faculty and the Passions.

Reason is an operation of the Mind. Each
of these faculties occupies a different part
of the Brain, and are sometimes transla-
ted.

Memory.

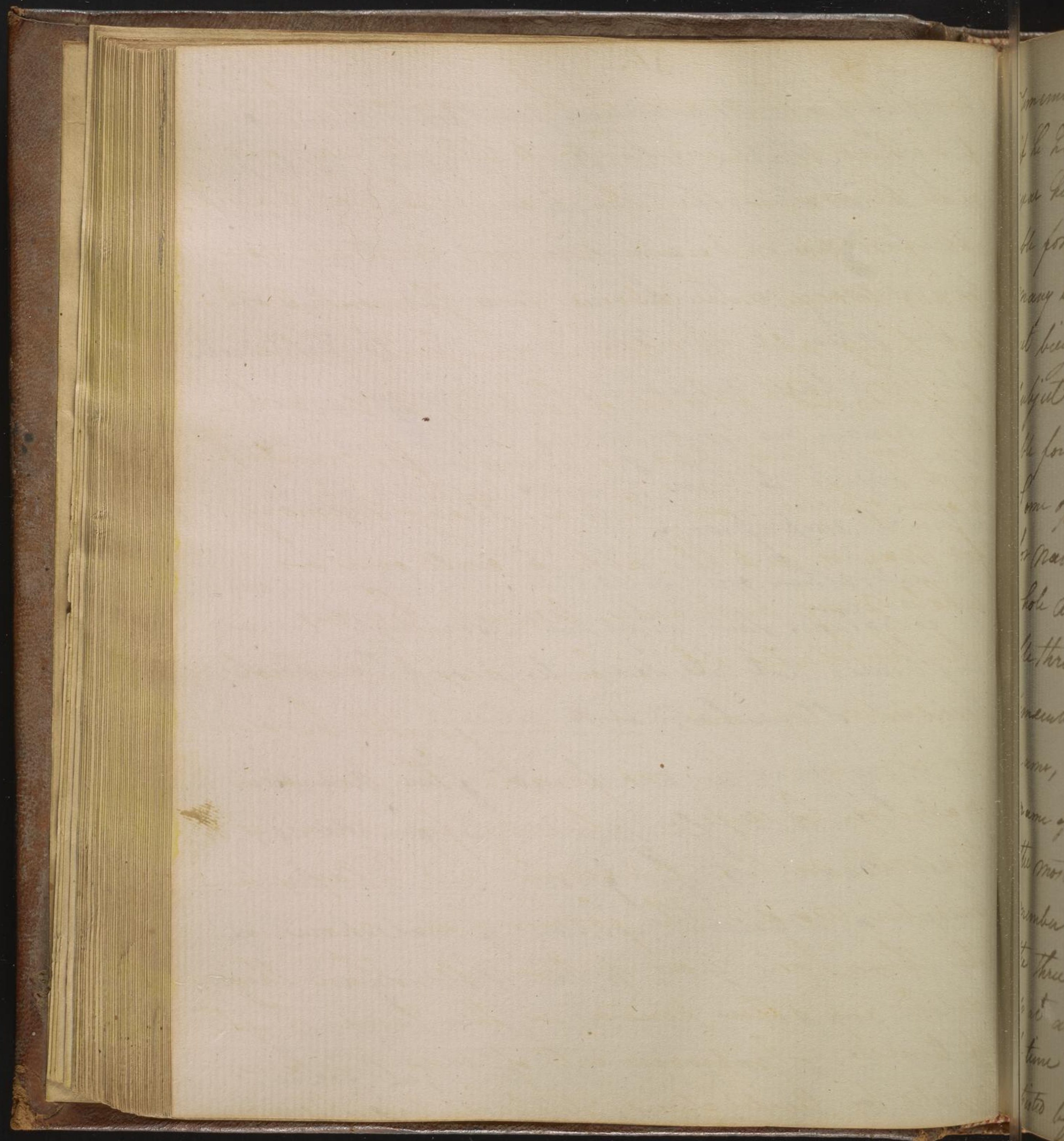
This is the most wonderful Faculty of the
Soul; it may be divided into a Capacity of
recalling, and retaining circumstances.



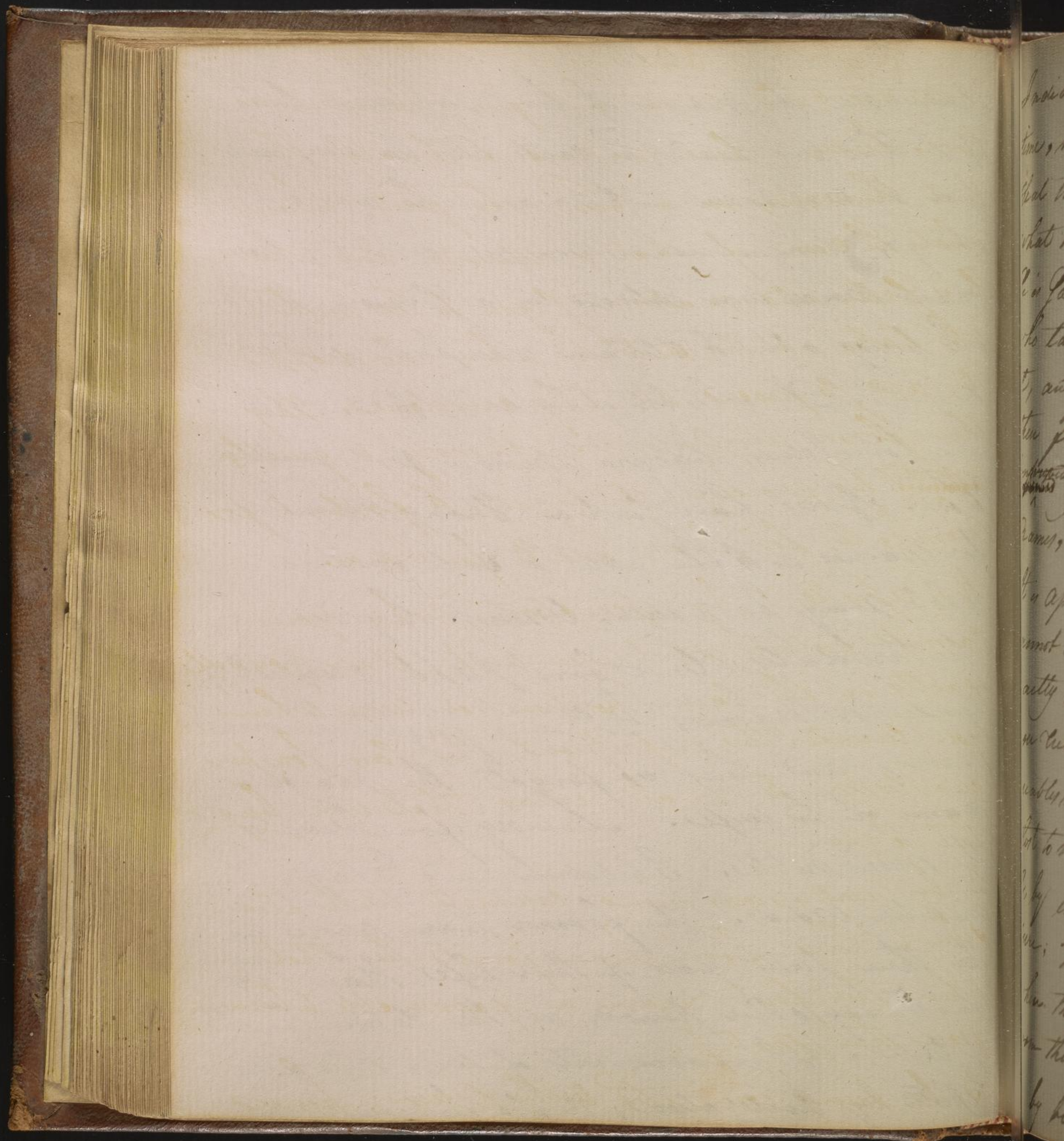
It differs from Reminiscence, in not requiring the object, that excited the sensation, to be present to awaken the Remembrance of it, whilst Reminiscence does. A child and a Horse have Reminiscence, as the former knows its mother or nurse when it sees them, and the latter recollects the place where he has been fed, but they have no Memory, as they cannot bring these objects to their minds, except by an external impression.

No wants, when once lodged in the Memory, can be forgotten; they may lie dormant for a long time, but at some time or other, they will be stimulated into action.

Memory may be divided into five kinds, 1, for Words, 2, for Numbers, 3, for Ideas, 4, for Names, 5, for Faces, each of which occupies a different portion of that part of the Brain allotted to the Memory at large. A man who was remarkable for remembering Names, by a fit of Apoplexy, lost that power, and could only remember...



remember the name of his neighbour, but if he had ever heard, he could tell the day and year he was born. A man, who was remarkable for remembering numbers, could tell how many words were delivered in a sermon, without being able to retain any part of the subject. Dr. Robert of Farley, so remarkable for Ideas, had no memory for numbers. Some officers have such a strong memory for names as to be able to call over a whole army by name, without error. The three dates, &c. Some people cannot remember names; Dr. — forgot his own name, and Linnaeus forgot the maiden name of his wife. Memory for Ideas is the most noble. Children and Playars remember words. The former learn more in the three first years of their life, than they do at any other period, in the same length of time. Improvements of every kind are assisted by Civilization; it also improves Memory.

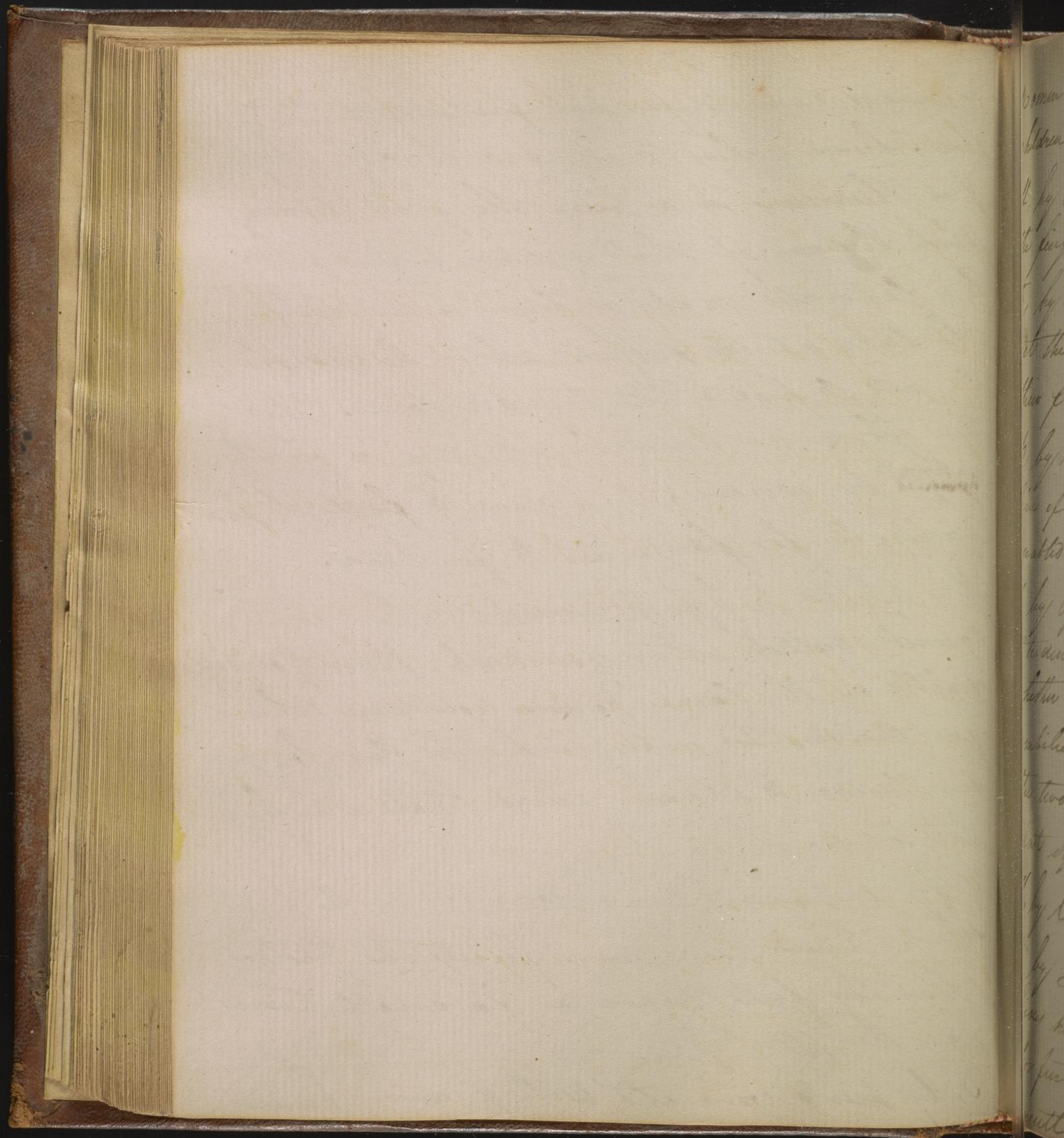


Indians can retain but few Ideas at a time, hence, when making a Treaty, they seat themselves in a Row, the first retains what he can of what is delivered, and when he is fatigued makes a sign to the next, who takes up the subject where he dropped it, and so proceed till they are done. They then form an Answer. Memory is greatly ~~improved~~ ^{improved} by exercise; it begins to fail, 1, for Names, 2, for faces, and 3, for Ideas.

It is assisted 1, by Association: When you cannot recollect what you wish, place yourself exactly in the same position you were when you received the impression, this I can say for enables me to recall ideas that were long lost to me.

2, by impressions being connected with pleasure; Some Lovers never forget the spot where they first receive a favourable return from their Mistress.

3, by being connected with pain; hence



Women date events from the birth of their children.

4. by Arbitrary Signs, as a string tied around the finger.

5. by a Gamut of Voice. People often forget the faces, but remember the voices of their friends.

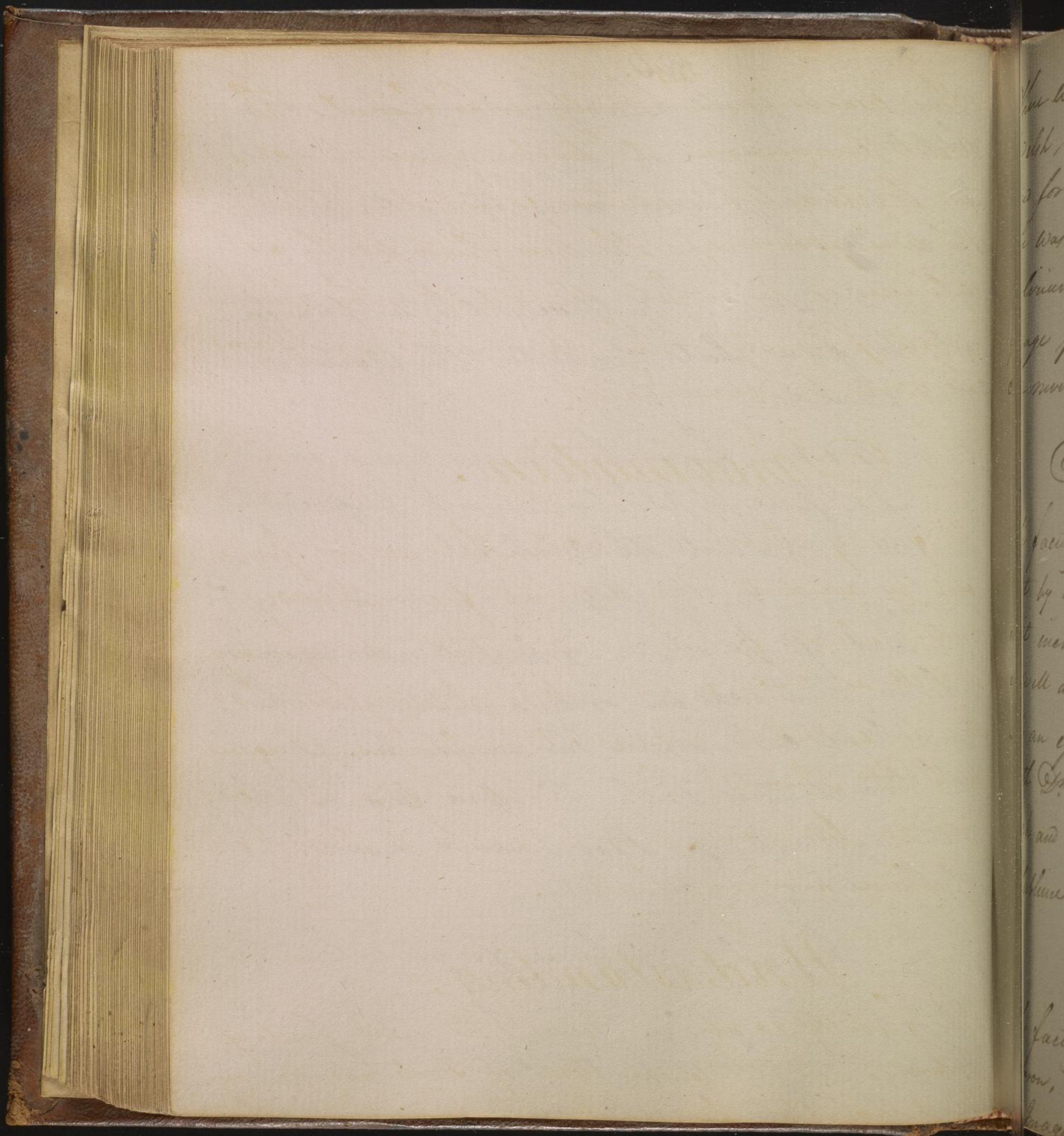
6. by Words, hence by remembering one line of a piece of Poetry, we are frequently enabled to recollect the whole.

7. by Association of Letters, I once knew a Student of Medicine who could not remember whether there was one, or two arteries in the umbilical cord, untill he learnt to associate the two arteries with the two A's in the last syllable of Boerhaave's name.

8. by Custom.

9. by Interest; No person forgets where he hides his money.

For further information on this subject consult Butler, Locke, and Reid.



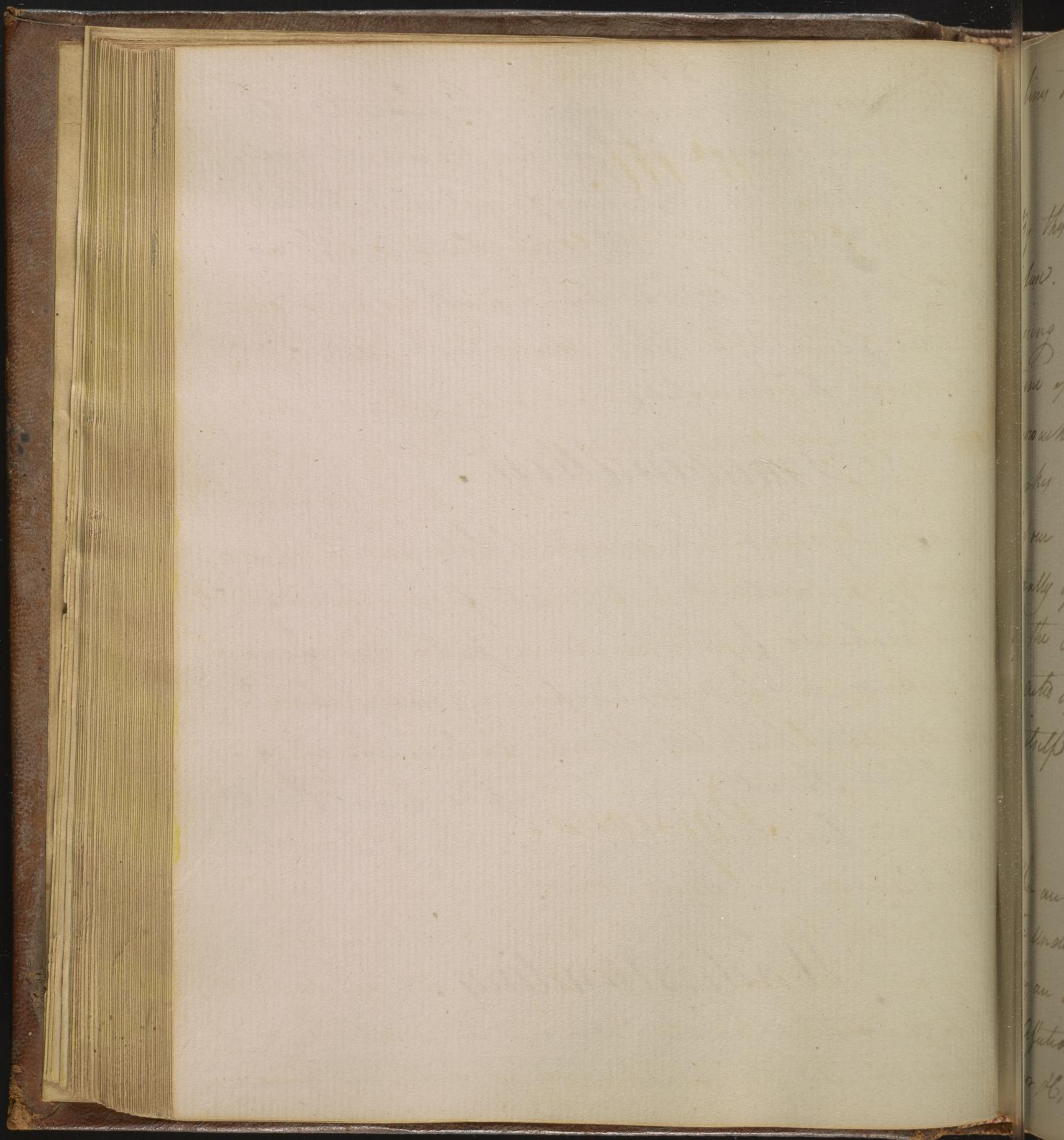
There was a noble Lady who learnt the Welsh language at twelve years of age, and for want of practice, forgot it. After she was grown up she was seized with a delirium, in which she spoke this language fluently. This shows that an Idea can never be eradicated.

Imagination.

This faculty effects all discoveries, that are not found out by accident. It is different from Memory, as it includes future, as well as past, imaginary, as well as real, events, which Memory does not. It is an essential ingredient in Genius. I agree with Dr. Stuart that it differs from Fancy; rich and luxuriant may be ascribed to Fancy, but sublime to Imagination.

Understanding.

This faculty combines Ideas, it is the seat of Reason, and the touch-stone of Truth and Memory. The Imagination supplies Ideas, the Understanding



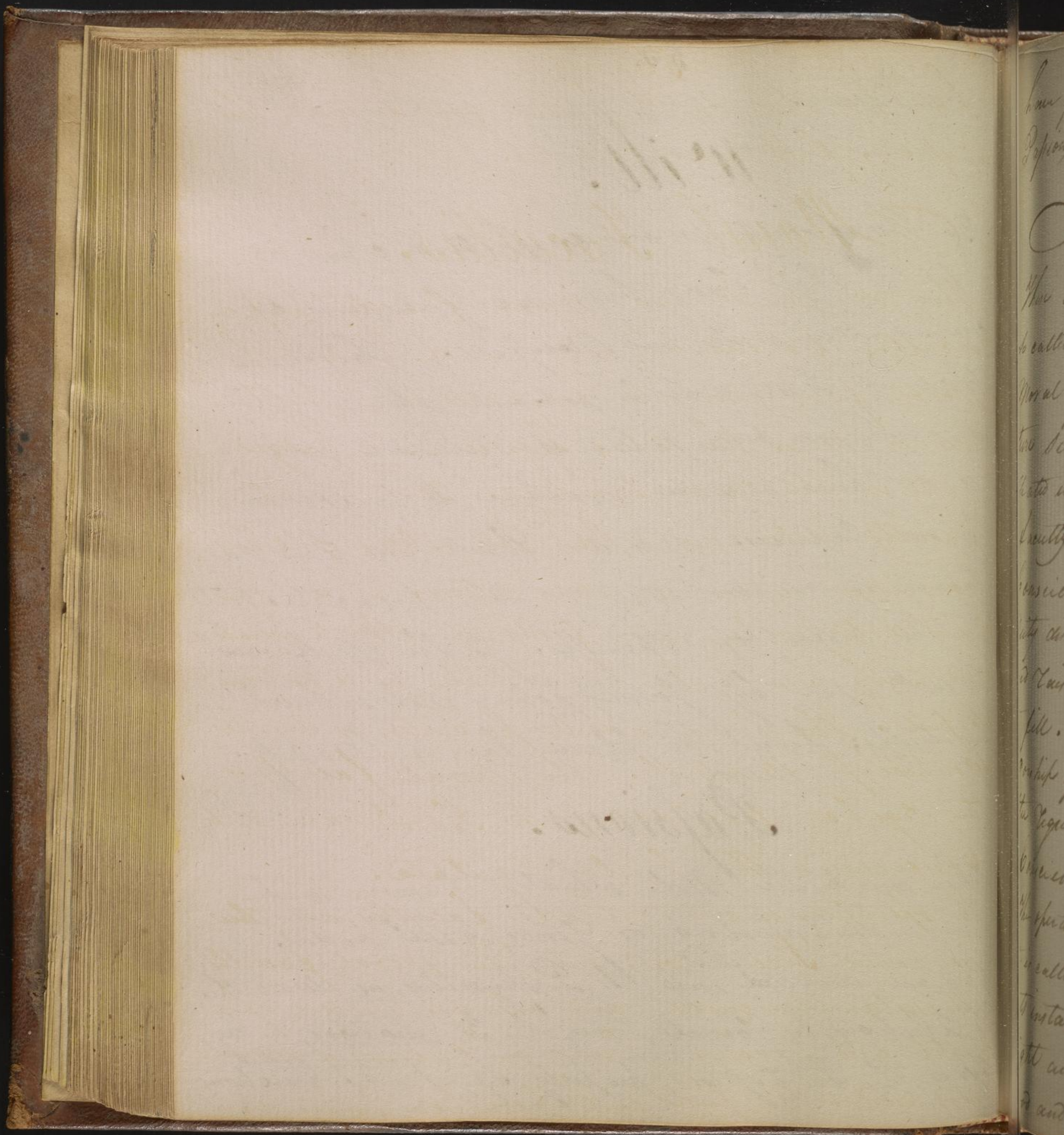
- binds them.

Will.

By this Faculty we are compelled to chuse or refuse. There have been many disputes concerning Free-Will and Necessity. The doctrine of Free-Will is not only absurd, but encroaches on Omnipotency of the Deity, and makes him a mere Machine to be governed by our Caprices. As we have no life naturally of ourselves but what is brought about by the action of Stimuli, so the Will must be acted upon by some power not inherent in itself; hence the plain law of Necessity.

Passions.

These are to the Will what Memory is to the understanding, or Genes to the body. They are divided into, 1. Propensities, as desire, &c. 2. Affections, as special Love, &c. 3. Emotions, as Joy, Horror, &c. 4. Passions, properly speaking. Emotions

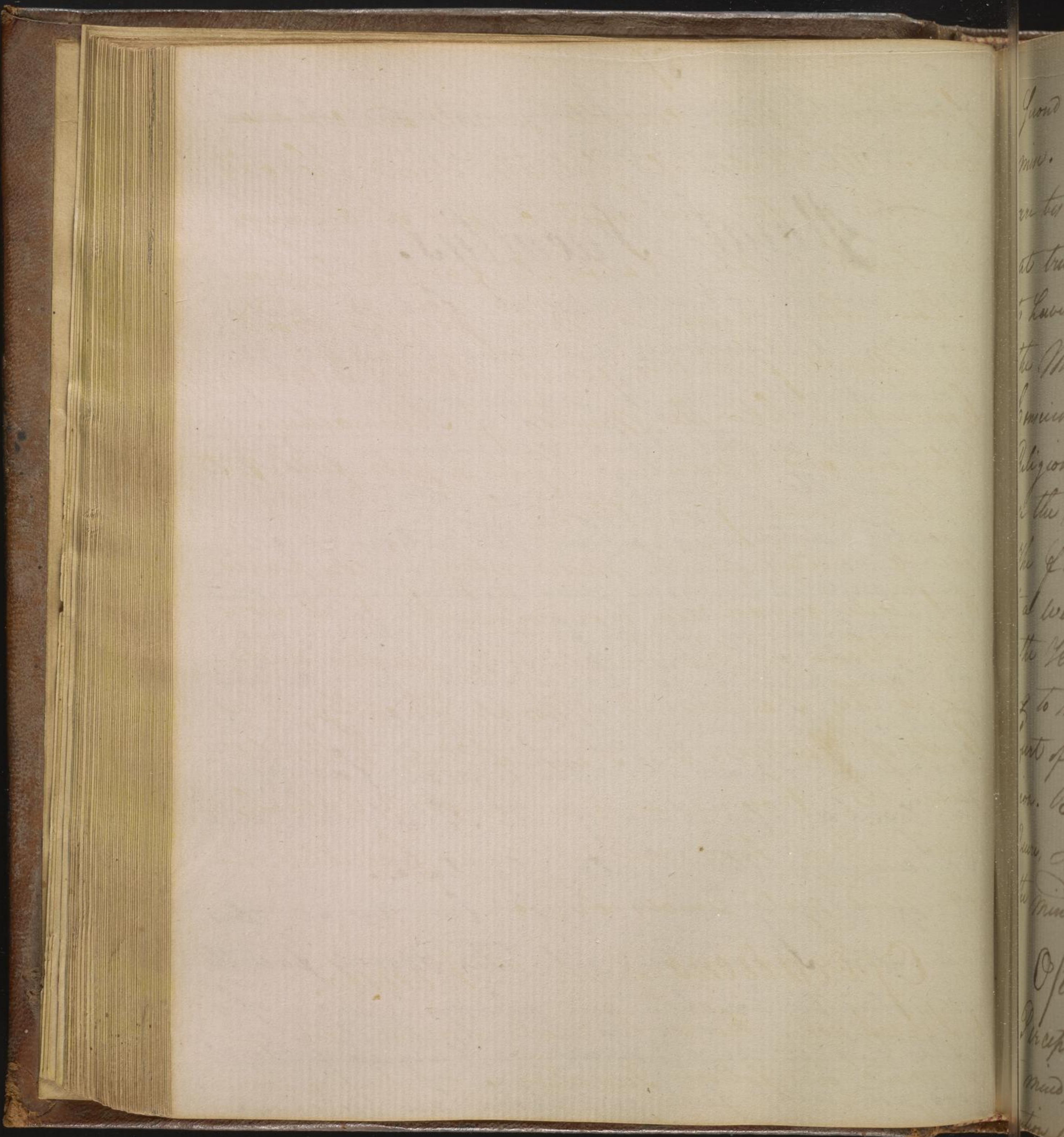


have for their object present good or evil, the
 Passions, future good or evil.

Moral Faculties.

These are divided into Moral Faculty, properly
 so called, Conscience, and Sense of Duty. The
 Moral faculty may be compared to a Legisla-
 ture seated in the Will, Conscience a Judge
 seated in the Understanding. The Moral
 Faculty determines upon the actions of others,
 Conscience upon our own actions. Sense of
 Duty distinguishes Man from all other animals,
 and raises him to the high state he is destined
 to fill. This Sense may be perverted, as in the
 worship of Beasts, &c. The Moral faculty is
 the *Regula Regulans* of the Schoolman, while
 Conscience is the *Regula Regutata*.

The operation of our Rational faculties are slow,
 it is called Speculation; but the Moral faculty
 acts instantaneously, and always judges of
 Right and Wrong, True, on subjects of Moral
 good and evil, first impressions are best, as



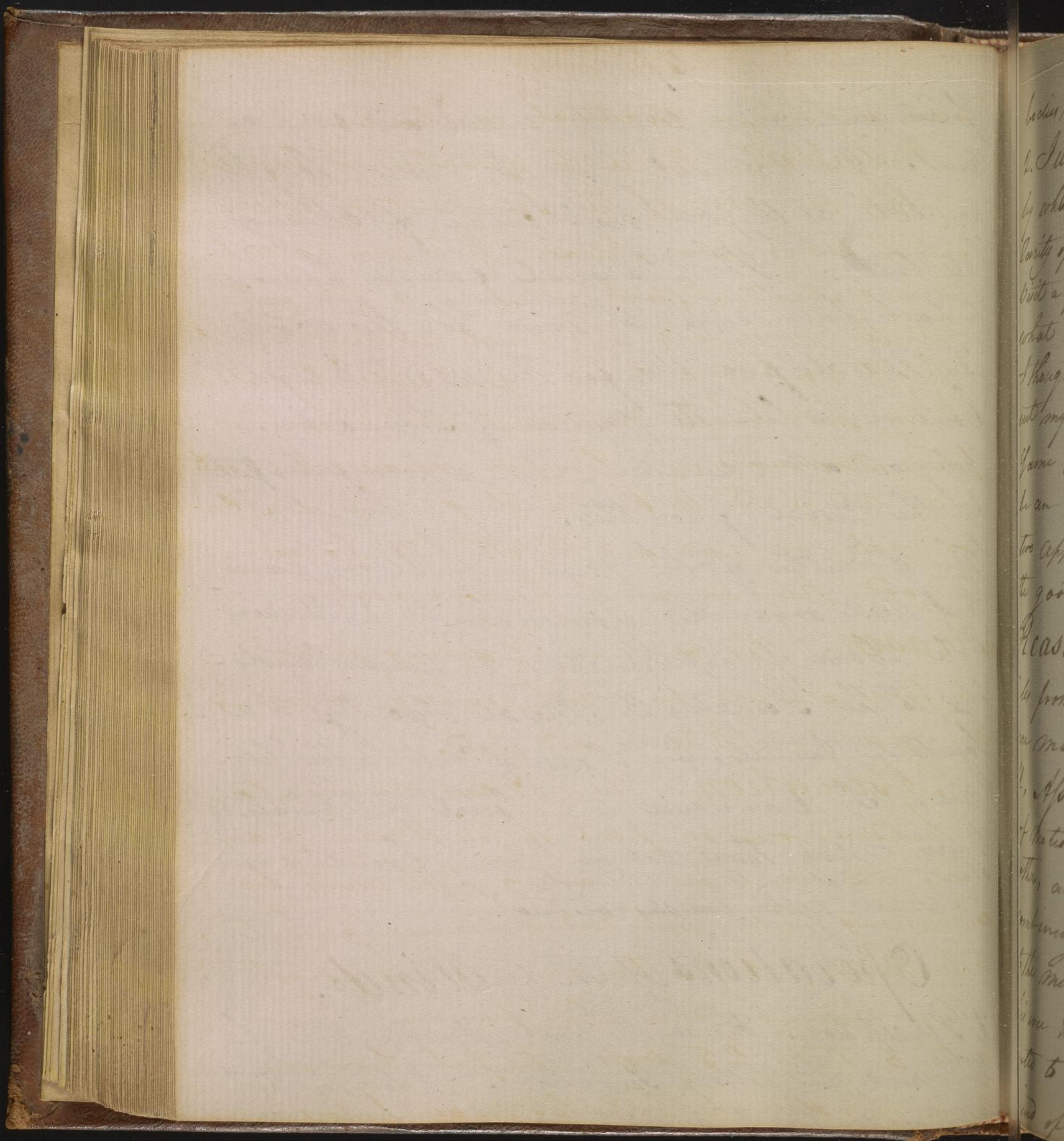
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Sound impressions consult interest and compromise. On rational subjects, sound thoughts are best, as they are most certain of arriving at truth. The rational faculties appear to have been given to man for this world, the Moral faculties, for the world to come. Conscience is like the Minotaur of Theseus. Religion and Education have a powerful effect on the Moral faculties.

The faculties of the mind may be compared to a well organized Government; 1, Memory to the House of Representatives, 2, Understanding to the Senate, 3, Moral Faculties to a Court of Justice, 4, Sense of Duty to the Religion. 5, Conscience to a Court of Appeals. &c. Quere, May there not be some faculties of the mind yet undiscovered?

Operations of the Mind.

1, Perception. This is the most simple act of the mind, and follows Sensation. Ideas, is that attention we have to present to the mind.

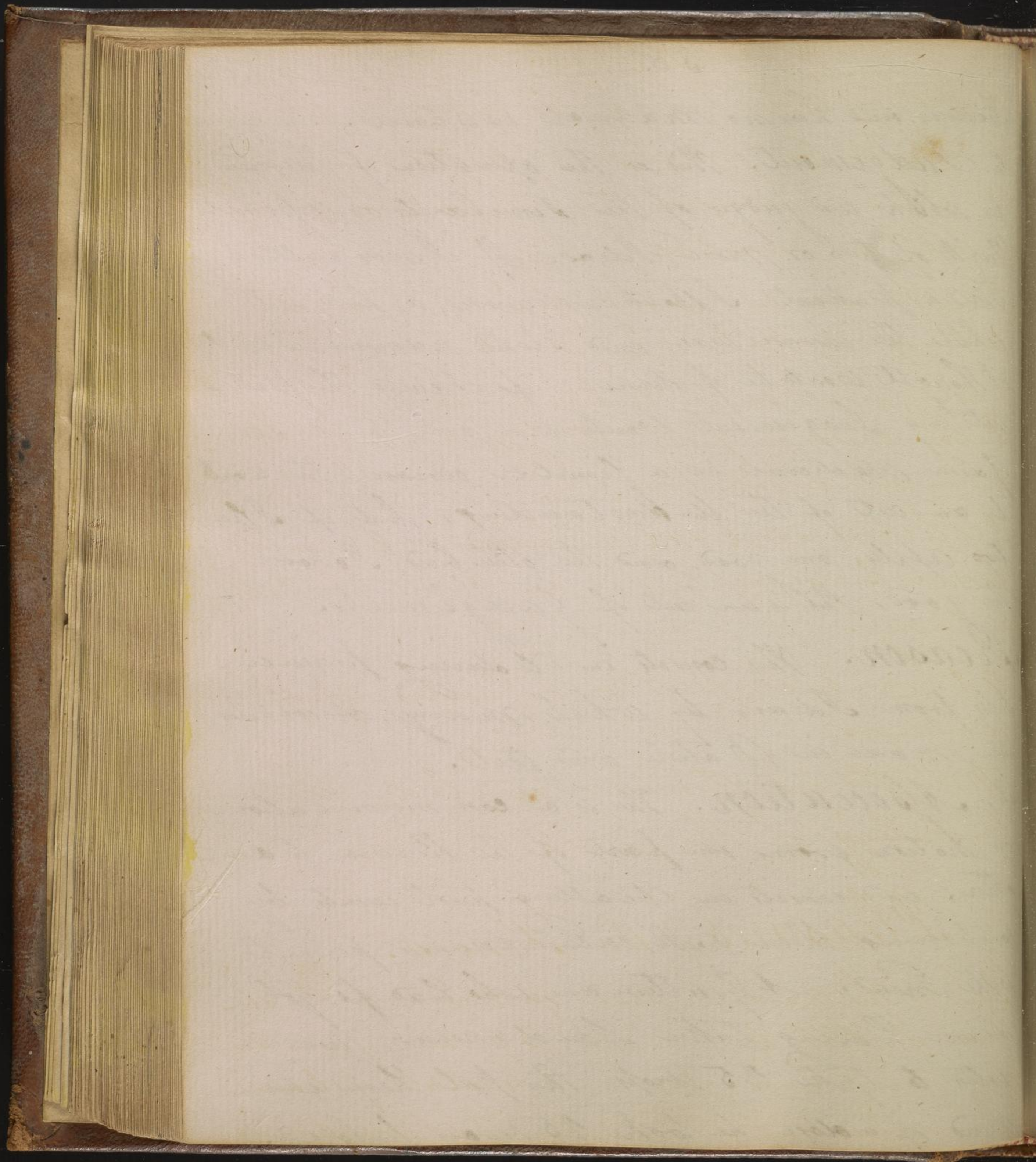


body, and has no material existence.

2. *Judgement*. This is the operation of the mind by which we judge of the similarity or dissimilarity of two or more Ideas. If I was called to visit a patient, I should endeavour to find out what the disease was, and should administer what I thought would be of service; if I cured the patient my Judgement would direct me, to use the same medicine in a similar disease; this would be an act of the understanding; but if I see two apply, one good, and the other bad, I choose the good, that is an act of Judgement.

3. *Reason*. This consists in reducing principles from Ideas, by which many discoveries are made in Nature and Art.

4. *Association*. This is a communication of motion from one part of the Brain to another, and consists in recalling past events by combining them with circumstances present to the mind. A Gentleman, who had forgot his own having taken Laudanum, was directed to take 25 drops, this put him in mind of a dose he took 25 years before.



Human Knowledge is of two kinds, 1, for
Sensible, and 2, for insensible, things.

We have a knowledge of Sounds and Ideas, both
of which are nonentities.

Thought is a mere quality of bodies; it is the
motion of the Brain, caused by Stimuli.

Genius travels on the wings of the mind; while
Reason walks on foot; the former acts by sud-
den impulse or intuition.

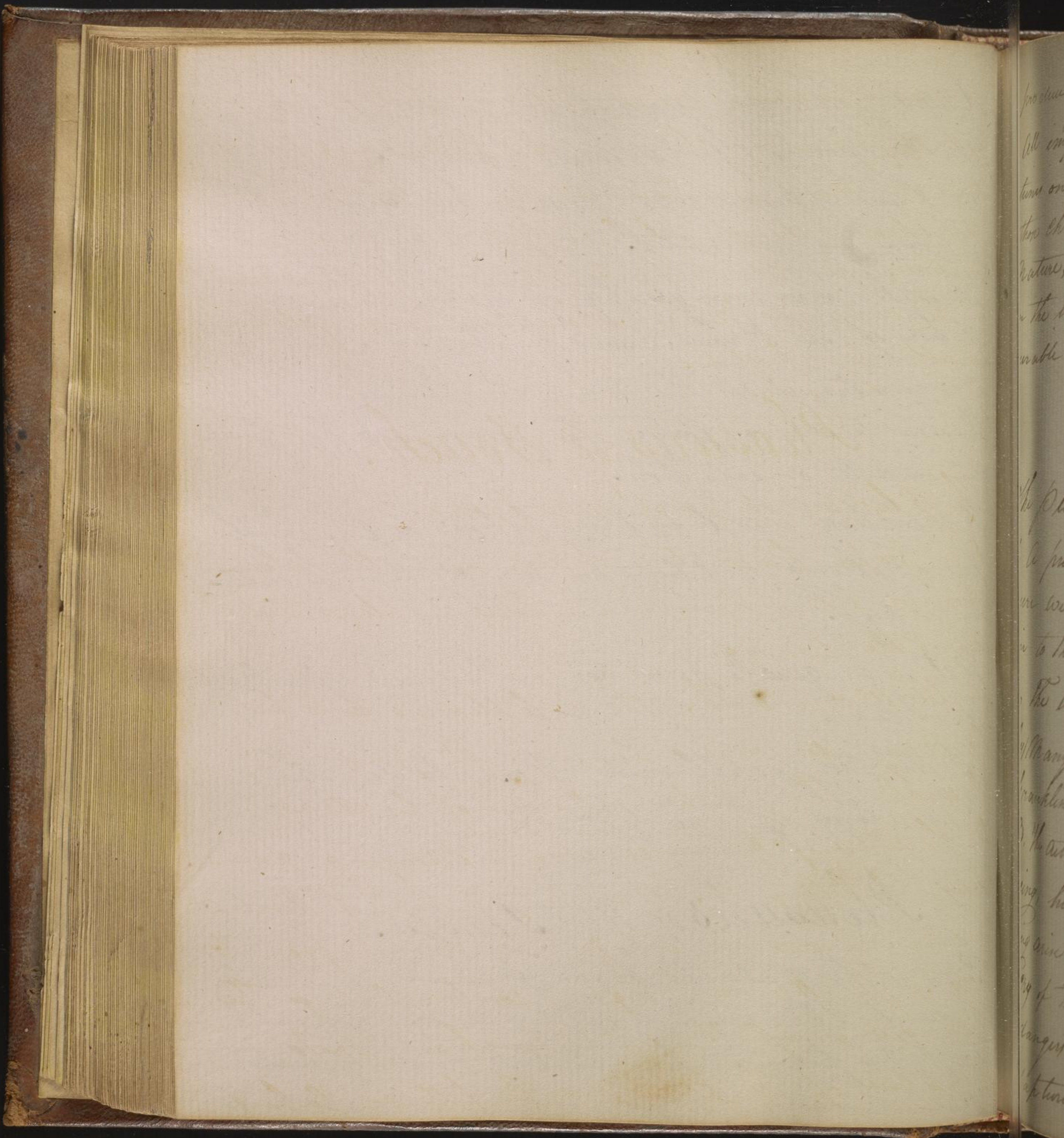
Reflection and Contemplation differ in the
former, being employed on one object, the latter,
on many.

Wit is a quick perception, or sudden assemblage
of Ideas.

With this Gentleman I conclude the
Physiology of the Mind.

Pleasures of the Senses.

Pain is the natural state of Man; as the ab-
sence of Stimuli is death, so without Generation
we suffer pain. In a civilized state, pleasure
predominates, but pain, in a Savage. So

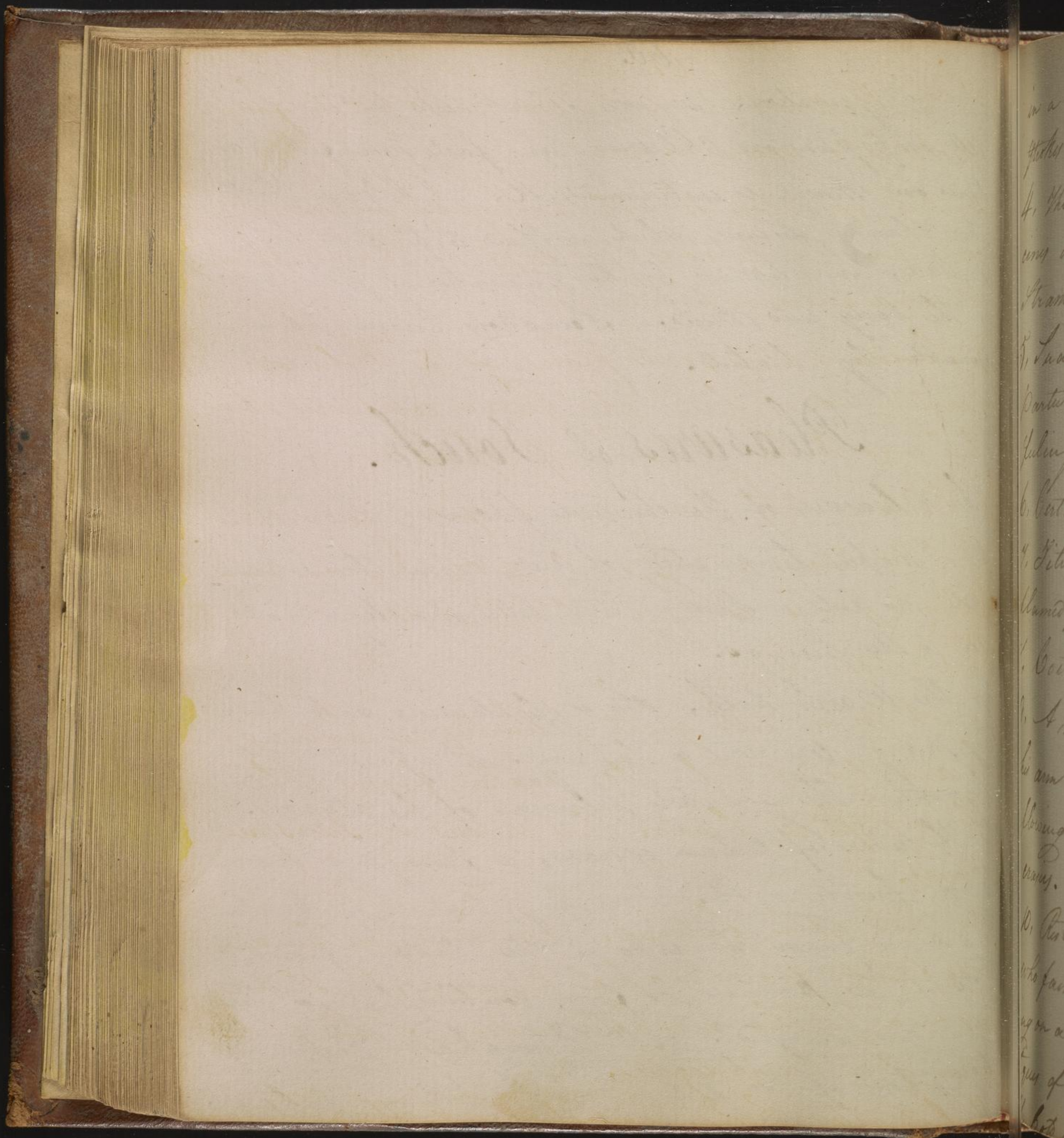


produce sensation, we use Tobacco, Spirit, Opium, &c.
 All impressions on Children, are first painful, as
 tunes on Musical instruments, &c. I believe that
 those chronic diseases, which are said to be cured by
 Nature, are relieved by the stimulus of pleasure
 on the body and mind. Sensations become plea-
 surable by habit.

Pleasures of Touch.

The pleasures of Touch arise from,

1. A proper temperature of air, hence the plea-
 sure we feel in Spring; it is like dephlogisticated
 air to the Lungs.
2. The Warm bath, this is so pleasing as to be,
 by many, considered a luxury. It afforded Gen.
 Franklin the greatest pleasure of his old age.
3. The action of certain exercises, as swinging, dan-
 cing, hunting, &c. Does the pleasure of Hunt-
 ing arise from the echo of the Horn, from the
 cry of the Hounds, or from contemplating the
 dangers escaped? Mr. Blanchard spoke in
 Captivity of the pleasure he felt in falling



in a Balloon; his pulse was raised by it four strokes in a minute.

4. The operation of certain liquors and Medicines on the Nervous System, as Rum, Opium, Stramonium, Tobacco, &c.

5. Sudden relief from pain, as the Colic on parturition, hence they have compared their feelings to the pleasure of Heaven.

6. Certain soft substances, as Lard, down, &c.

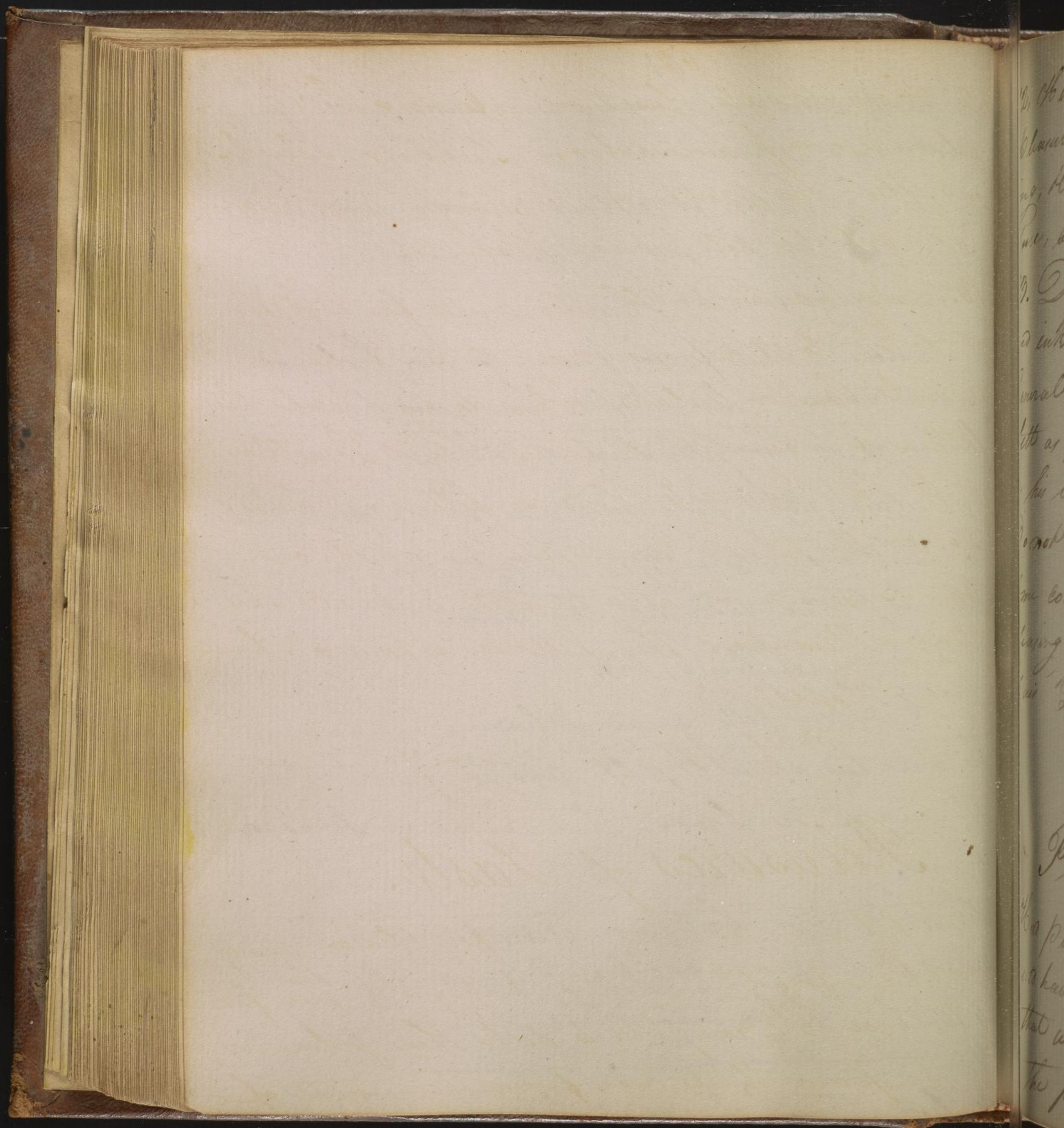
7. Titillation, as a soft hand rubbing an inflamed part, looking the head, &c.

8. Coition, Kissing, &c.

9. A man felt great pleasure in having his arm tied up to be bled; another, from the flowing of the blood; these depend on Idiosyncrasies.

10. Rest after fatigue, I knew a Gentleman, who fainted from excess of pleasure, by sleeping on a feather bed, after enduring the fatigues of a Campaign.

11. Cold after heat, as a cool evening after a hot day.



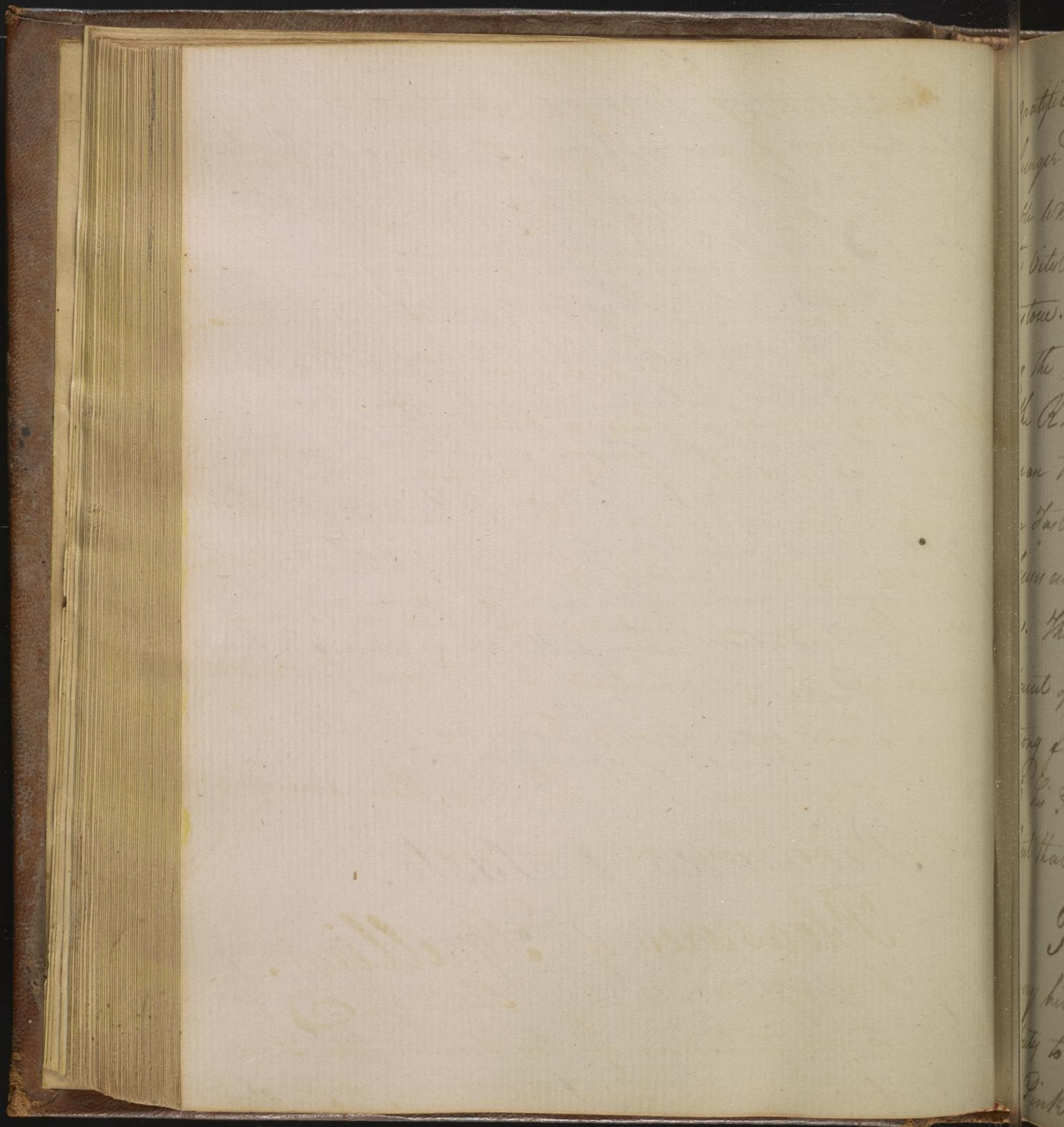
12. Hermaphrodite Generations, affording both pleasure and pain, as from Tickling, Sneezing, &c. The motion of the Thigh gives pleasure, but the cold produces pain.

13. Dying, Dr. Hunter wished for a pen and ink to write how easy it was to die. General Butler declared, when dying, that he felt as if going to sleep; and Dr. Priestley, in his last moments, said he felt no pain. Do not the placid smiles, we see depicted on some countenances after death, indicate the pleasing Generations they felt in expiring? Hence said Pope,

"The Bliss of dying."

Pleasures of Taste.

Had pleasure have depended upon Reason, many would have forgot to enjoy it, happy is it then for us that we are compelled to seek these pleasures by the pain that arises from the want of

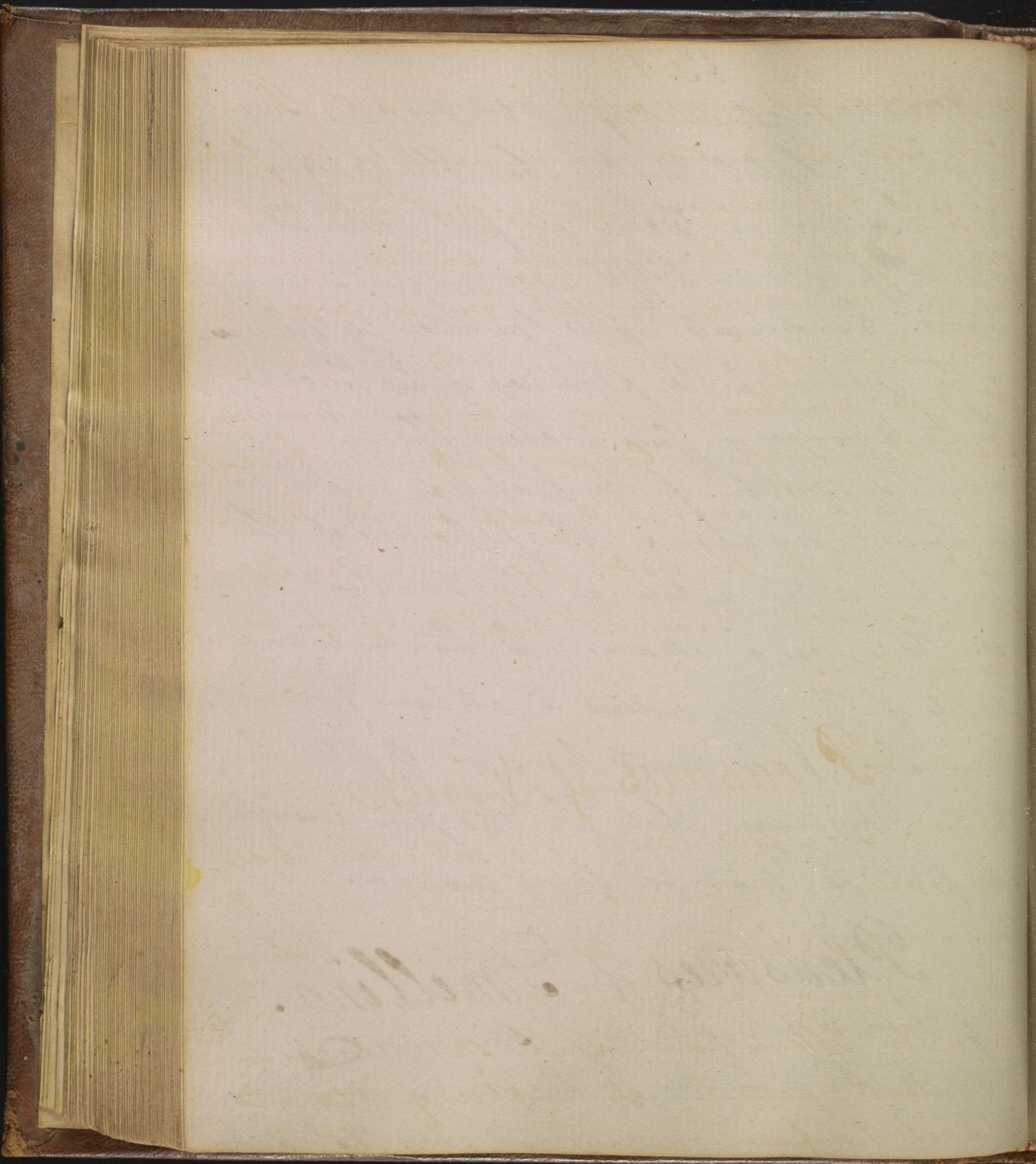


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gratification. Taste is of a relative nature, hunger and habit make those things agreeable which were loathsome at first, even tobacco the vitest of all vegetables becomes agreeable by custom. Condiments assist digestion by increasing the motion of the Papillae of the Tongue. The Rhinoceros is said to chew thorns to increase the motion of the Papillae, and to render Taste more acute. The Pleasures of the Senses are active articles of the Materia Medica. There was a Man, who had a complaint of his Eyes, ordered to abstain from strong food, or he would lose his sight; he told his Physician that he had seen enough, but that he had not eaten enough.

Pleasures of Smelling.

Every herb & bark, and every Stone contribute to the pleasures of this sense. The Rose, the Pink, and almost all the Flowers that deck

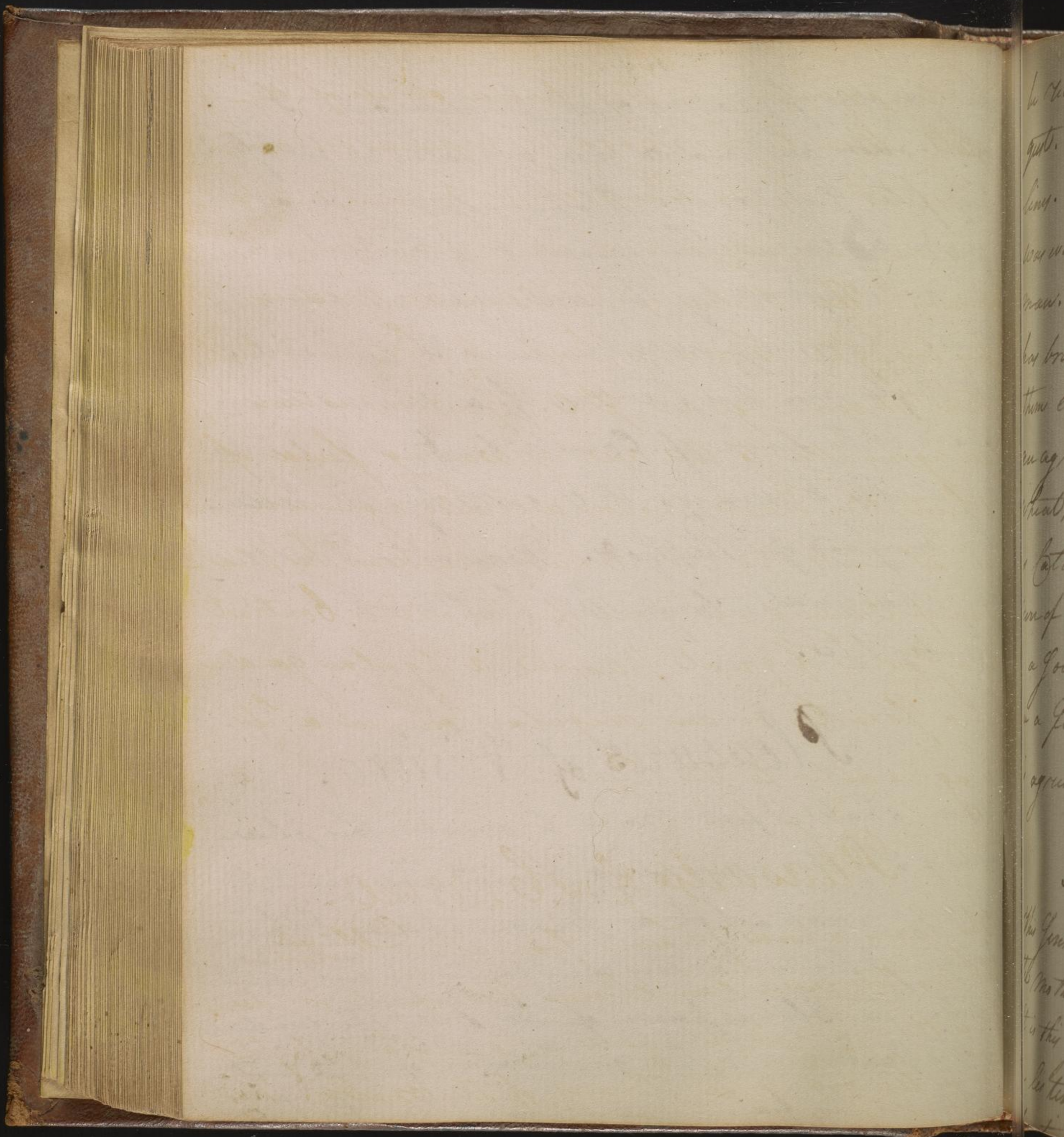


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the Garden of Nature, afford pleasure to it. Strong odors are considered more agreeable by most smelling fetid substances. Flowers possess it in a greater degree in the morning and evening when they are moistened by the dew, than at any other time. Smelling may be perverted by habit. Mr. Boyle mentions the case of a man who was pleased with smell of Candle-smoke. As a Fetid odor is agreeable to many; it is called by the Indians the food of the Gods. Agreeable smells are medicinal, hence the healthiness of a Country life.

Pleasures of Vision.

Where shall I find words to describe the pleasures of Sight; embracing height and depth, & soaring almost as far as Imagination. Colours become pleasing as they are found in certain objects; the Blue expanse of the sky; the verdure of the Earth; and the combination of Red and white in the face, are all agreeable: let them

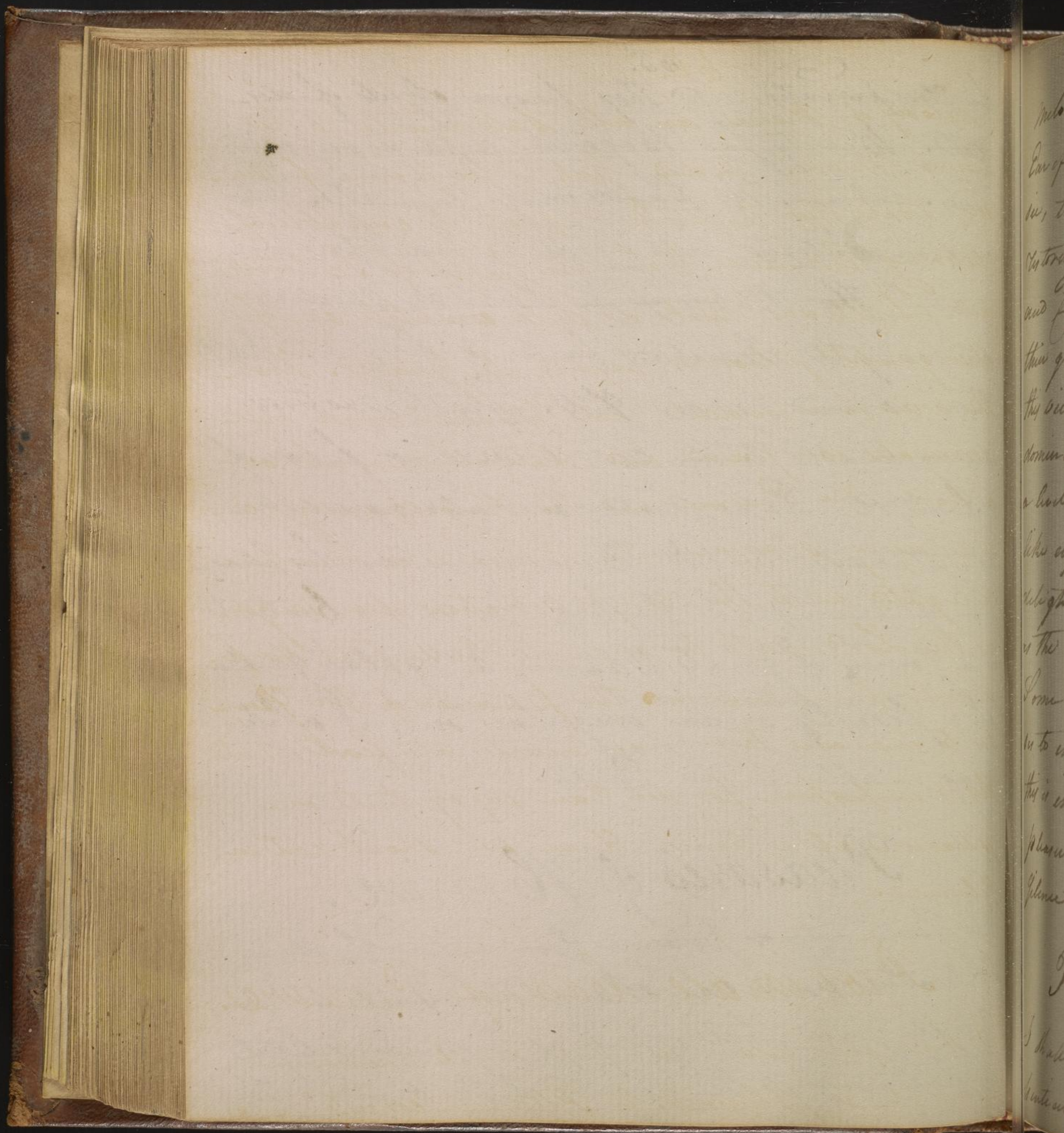


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be reciprocated, and they become objects of disgust. Beauty, says Hogarth, appears on carved lines. Man is the Handsomest Animal. Who was ever fatigued looking at a beautiful woman. The Statue of the Venus de Medicis has brought Travellers back to her, and kept them chained by her feet. Gentle motions are agreeable to the Eye, as waving fields of wheat, &c. Rapid motions are also agreeable, as Cataracts, &c. Mr. Bruce mentions his pleasure of viewing the falls of the Nile. Contrast is a source of great pleasure, a regular garden in a forest, or an irregular one, in a city, is agreeable to the Eye.

Pleasures of Hearing.

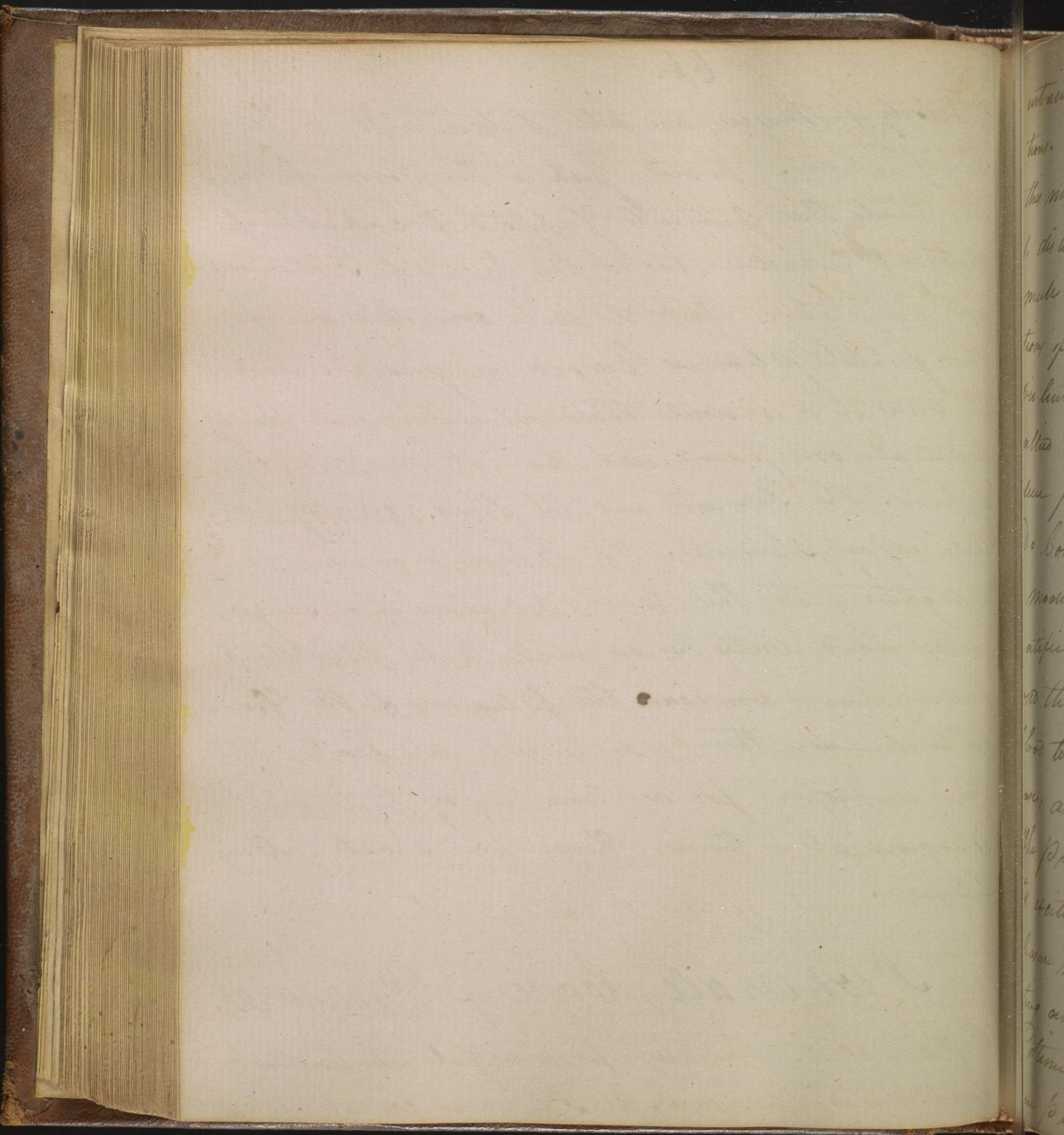
This sense affords pleasure soon after birth, as the Mother's voice can charm the infant to repose. It is this sense that affords us so much delight in listening to the strains of the Orator. The



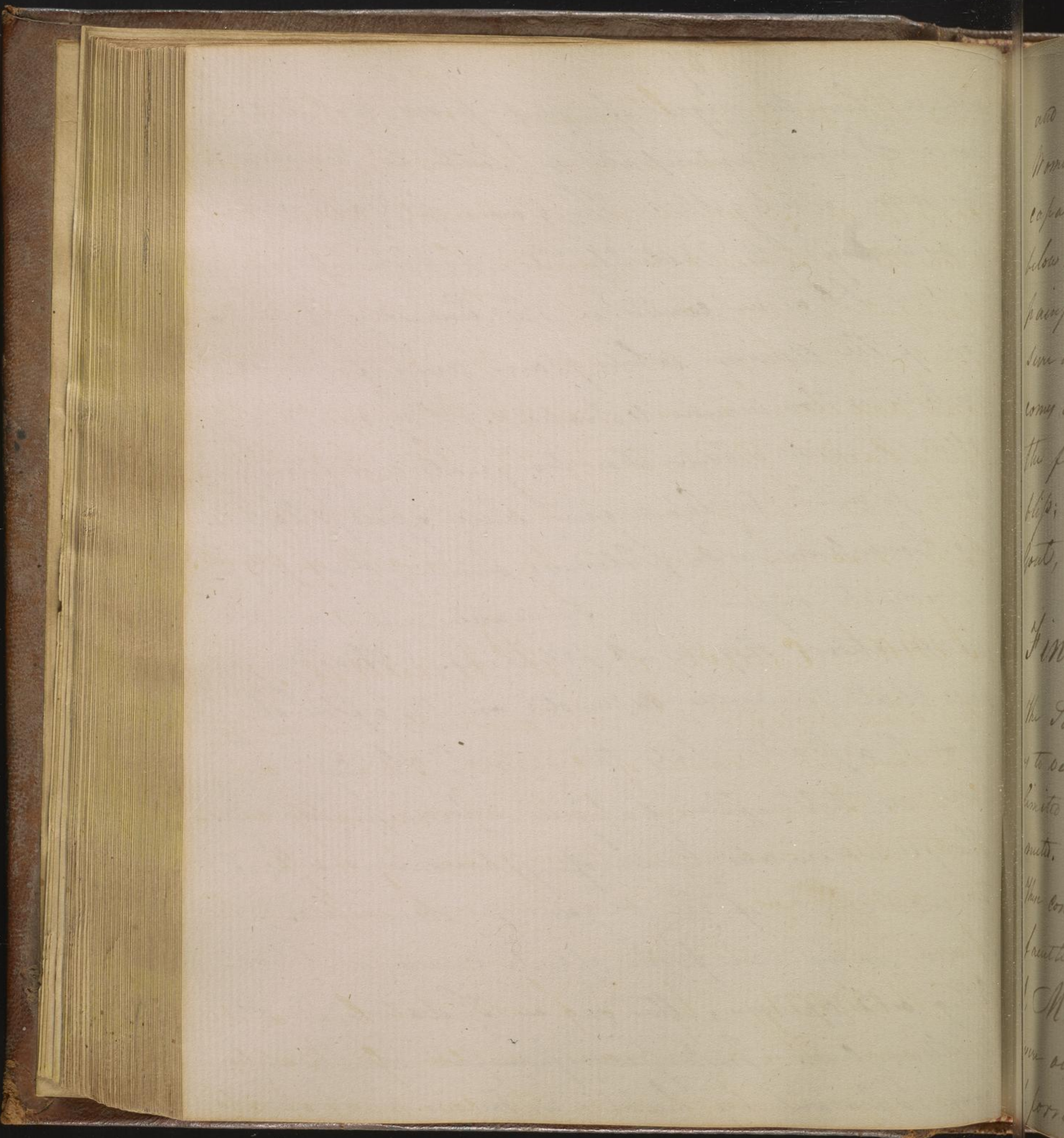
Melody of Music, are all Subservient to the Ear of Man. In deed, such is the power of Music, that the Antients supposed it capable of restoring Euridice from the Gulph of Tartarus; and Christians think it will constitute one of their greatest pleasures beyond the grave. From this view it is evident that pleasure must predominate over pain, and that all men are on a level. The Peasant and the King equally alike enjoy pleasure. The Clown is as much delighted with the rough vibrations of a Banger, as the Lord, with the exquisite thrills of the Harp. Some have combined the pleasures of the Senses to increase them, as Concerts at feasts, but this is improper, for we can enjoy but one pleasure at a time, hence we should eat in silence.

Proximate Cause of Pleasure.

I shall first deliver two propositions, 1. Motion is essential to pleasure. 2. Pleasure consists in a



certain limited degree of impressions and motions. I must anticipate a little to render this more intelligible. The Causes of pain are 1. distention, 2. Debility, 3. Mechanical stimuli. Pleasure consists in the Harmony of vibrations of the Nerves, while pain arises from too violent or too weak vibrations. They are nearly allied to each other. Does too great distention produce pain? A sup degree will afford pleasure. Do Convulsions (as in Epilepsy) induce pain? in a moderate degree, as in Titillation and Venereal gratifications, they give pleasure. Haller supposed that pleasure depended on the afflux of blood to a part, but this is not always the case, as rest after fatigue affords pleasure. The proximate Cause of pleasure is a healthy excitement of the organs of Sensation. Pleasure may arise from opposite Causes, as blood-letting and opium, the one a Sedative, the other a Stimulus. Impressions, painful at first, become pleasant by habit, as the use of Tobacco, &c.



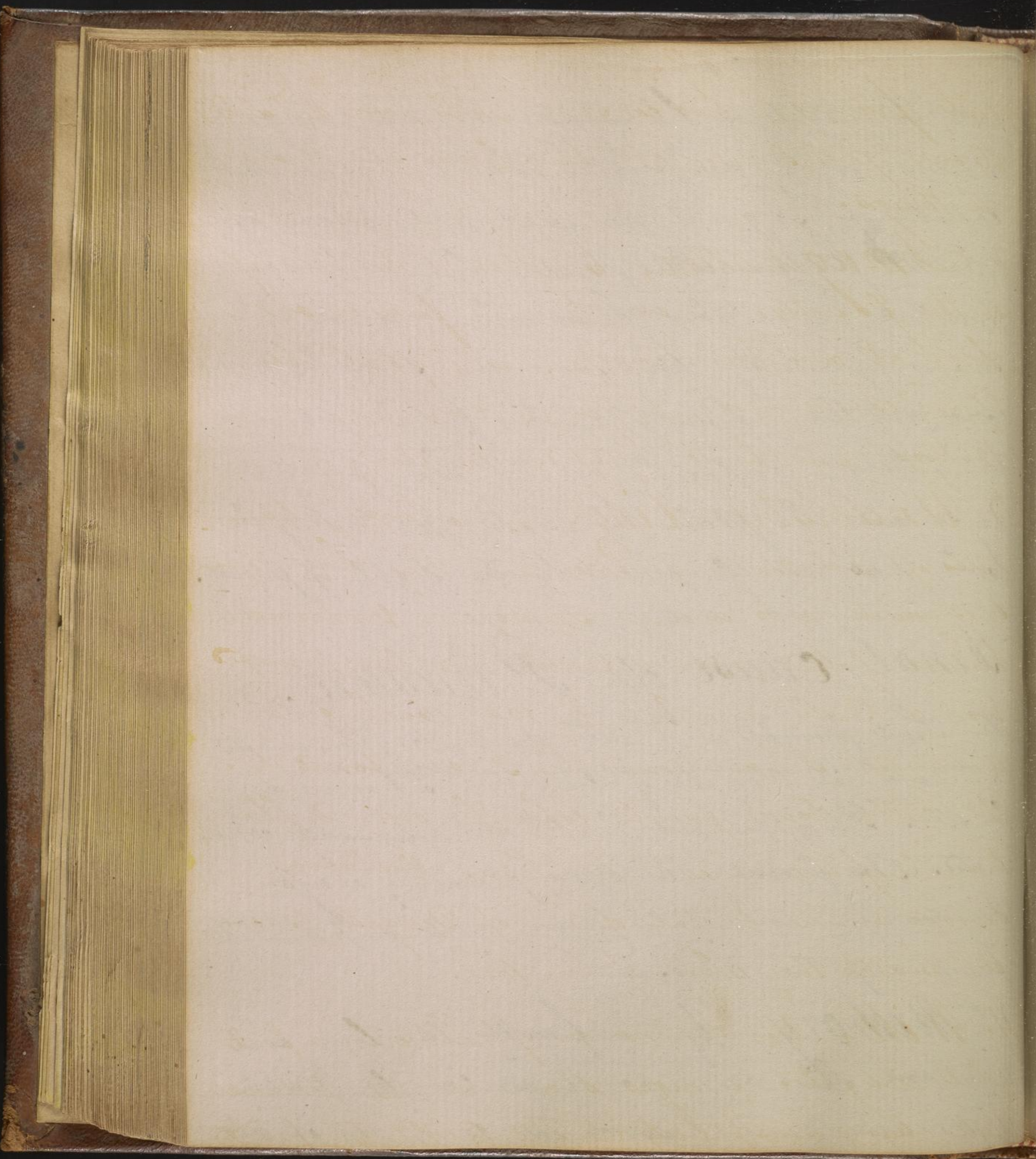
and the sight of Gladiators, Cock-fighting, &c. Women, as they are weaker than men, are not capable of so great an excitement above or below the pleasurable point, hence they bear painful impressions better than men. Pleasure is lessened by duration. One stimulus overcomes another, hence Martyrs feel no pain in the flames, supported by the hope of future bliss; and the pain of Looth-ack, and of the Gout, has been suspended by the sight of friends.

Final cause of Pleasure.

The Senses prompt us to eat, drink, &c. They invite us to view the wonders of creation. Pleasures are limited. Pleasure and Health are intimately connected. The former often causes pain, by excess.

These considerations should induce us to improve the faculties of the mind, and

1. Memory, by this faculty, we live as it were over and over again; we can see Battles of foreign Nations, enjoy the company of ab-



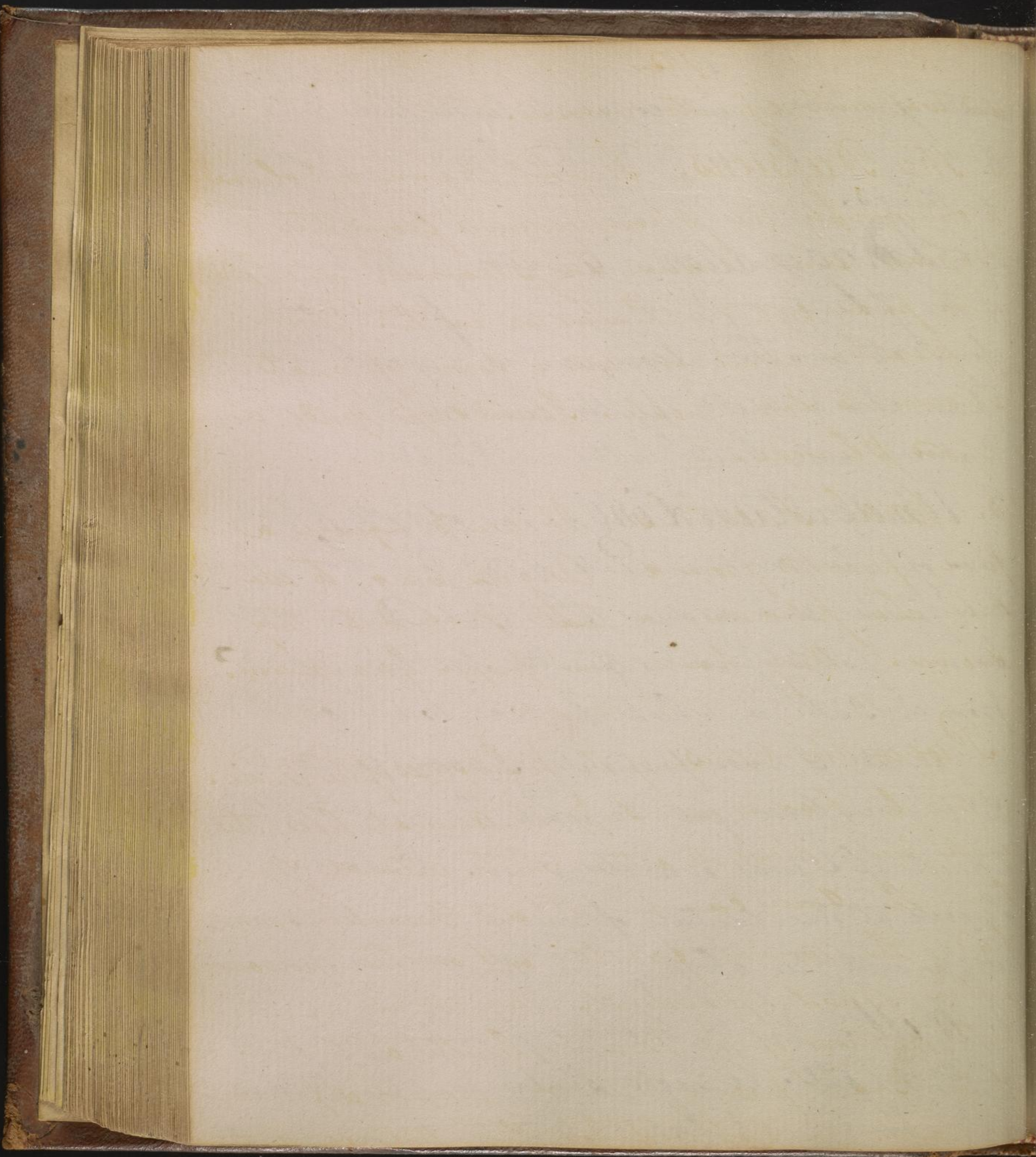
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-sent friends, and converse with those departed, at our fire sides, and thus learn and know all things.

2. *Imagination*, Creation is the business of this Faculty; at one time, it finds us on glory, at another, transports us beyond the seas. In a word, by this we can ride in Balloons, and build castles in the Air.

3. *Understanding*, This affords pleasures of the most delicate kind, they have been so exquisite as to induce Syncope. Archimides, having solved some difficult Problem, jumped from a Bath in which he was washing, and exclaimed, I have found it, I have found it. Dr. Hutton fainted when he observed the transit of Venus over the Sun. Octavia swooned at the recital of one of Virgil's poems, it recalled the glory of her son.

4. *Will*, The restoration of Liberty affords great delight. A negro Slave, in the Delaware State, being unlawfully restored to Liberty, fainted

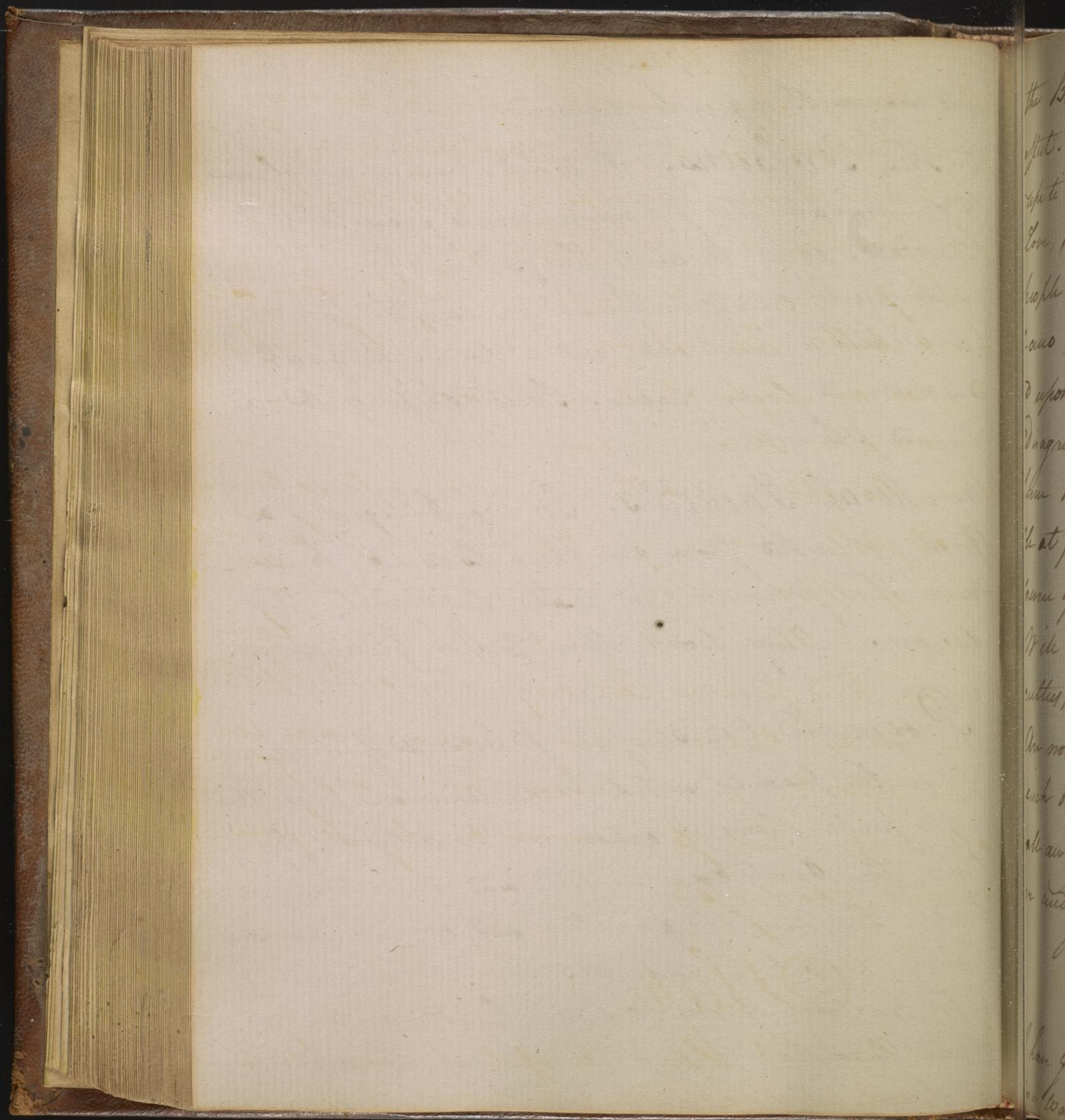


and was with difficulty uncovered.

5. The Passions, It would require a volume to enumerate the pleasures derived from the Passions: even Avarice has pleasure, and Love, when pure, creates a Heaven on earth. Desire of Wealth is insatiable, and a source of great pleasure to some people. Friendship yields a refined pleasure.

6. Moral Faculties. It would require a Pen, plucked from an Angel's wing, to describe these pleasures, in that sublimity they deserve. They have their proper Guardians.

Proximate Cause of the pleasures of the Mind. Stimulus produces and supports animal life, the quick pulse shows its action on the arterial system. The Heart can be felt, and some times, even heard. The Mental faculties act on the nervous system, Bowels, Glands, &c. These are all affected by the motions of the Brain. Gentle distention of the Brain produces pleasure, excess or deficiency, pain. The Passions of Joy, Love, Hope &c. distend



the Brain; Fear, Envy, &c. have the contrary effect. Grief, however strange it may appear, by repetition becomes pleasing. Disappointment in Love, has often had the happy effect of making people virtuous. Some, from habit, love to-bacco better than Sugar, so when love is fixed upon an ugly object, it is most durable. Disagreeable Studies, by habit become agreeable, when thoughts of death and judgement, so terrible at first, become by repetition a pleasing source of Meditation.

Will all those Capacities for pleasure, Faculties, and powers last, only during this life? Are not our Capacities and pleasures made for each other? Will the Duty then, throw them all away, which God immediately displays his power and goodness?

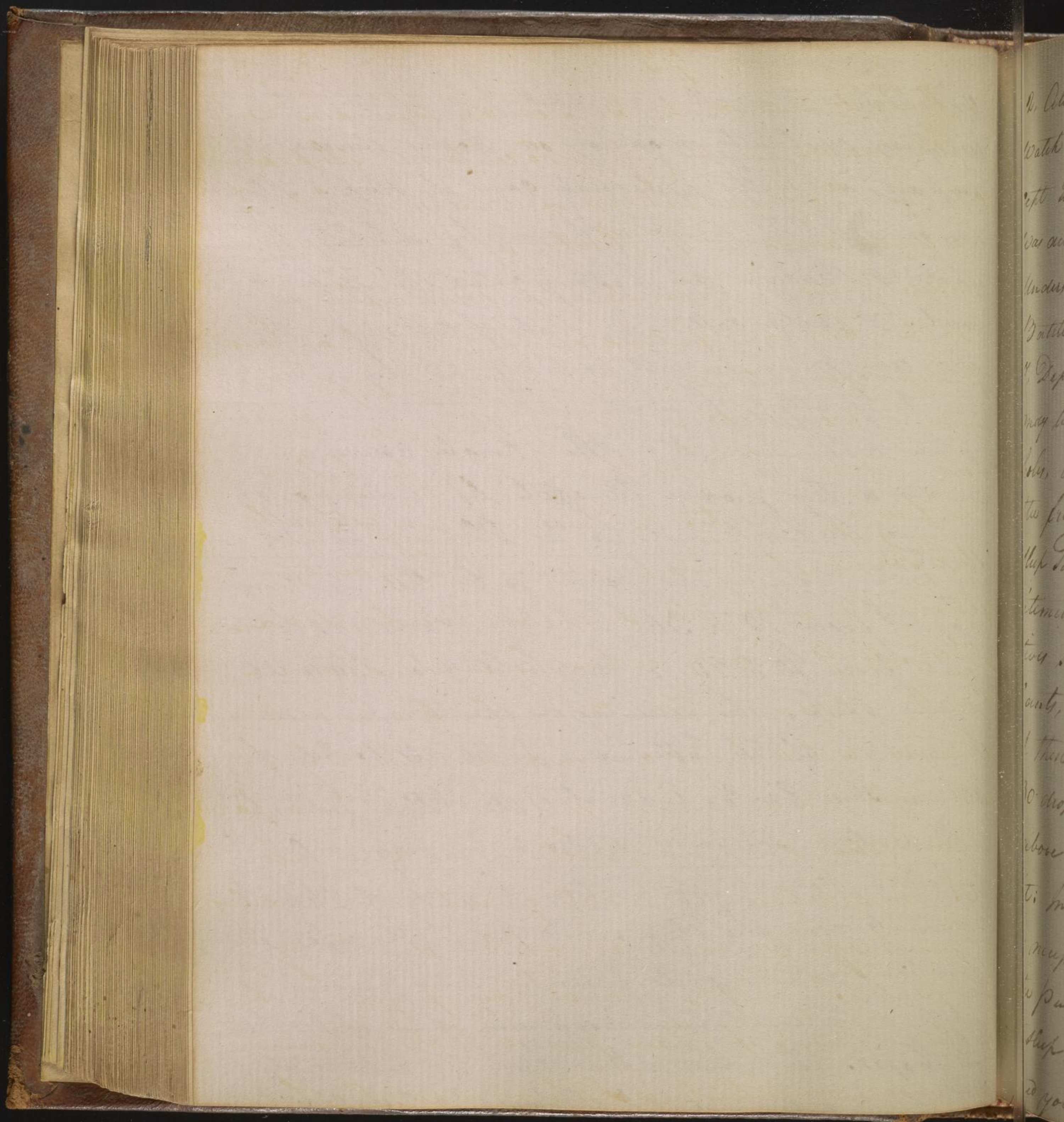
Sleep.

I have said that Life is the effect of Stimuli, God also is wakefulness. Sleep is to sensation and thought,

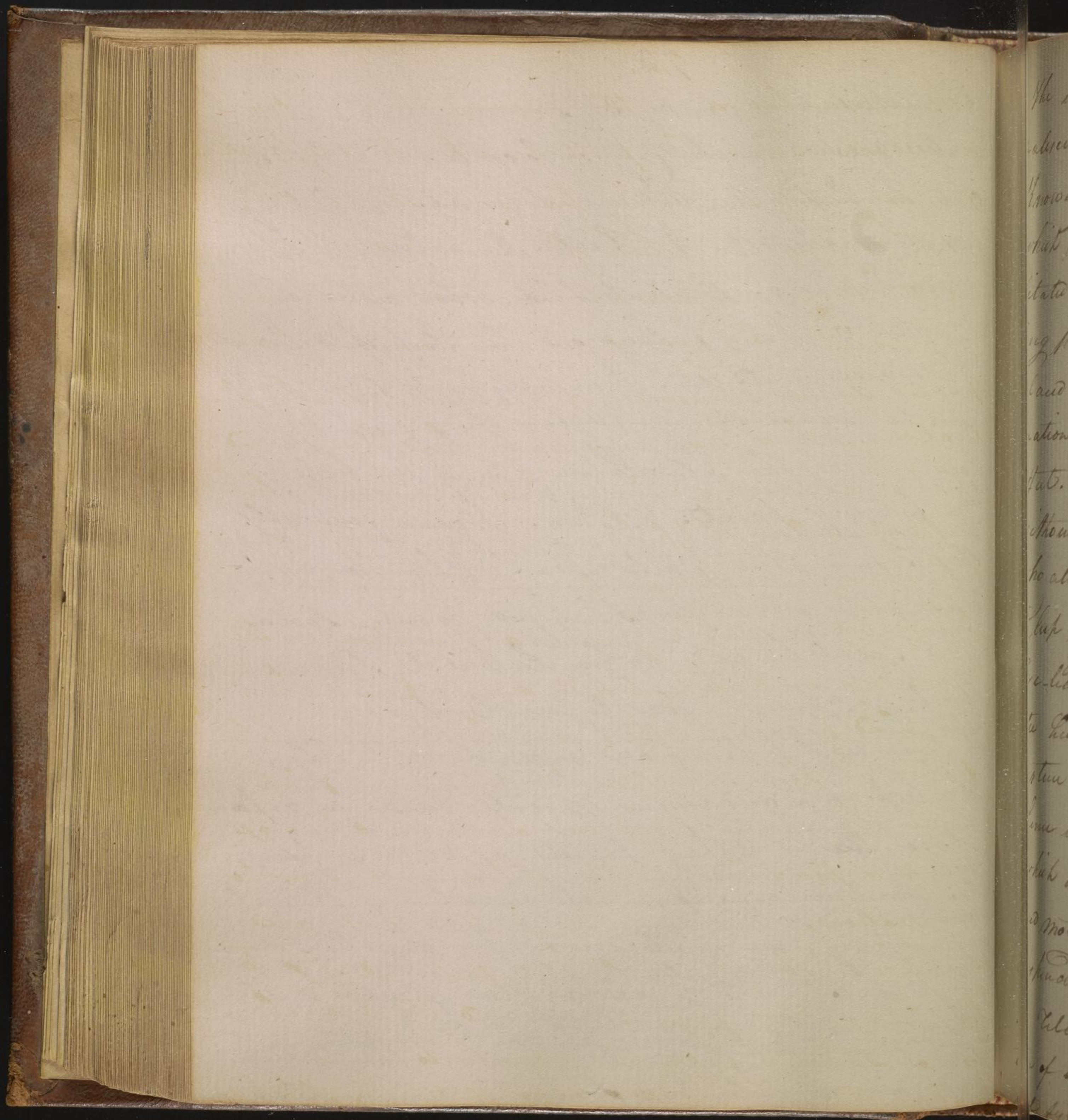
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What rests is to motion, or darkness to light. The impressions constantly made on our bodies render sleep necessary, and is the proximate cause of sleep. Sleep comes on when the system is reduced by debility to what Dr. Brown has happily called the sleeping point. Dr. Cullen calls it a state of collapse. When sleep comes on in indirect debility, it has a tendency to equalize the excitement, it reduces the system when high, &c. The remote causes are divided, as they produce the effect by reducing, or raising the excitement to the sleeping point:

We will suppose this point to be 20, its range may be from 10 to 30; whatever raises the excitement from 10 to 20, or reduces it from 30 to 20, induces sleep; the latter do it directly, the former, indirectly. of the latter are 1. the abstraction of certain stimuli. 2. Evacuations, as blood letting, purging &c. 3. Certain substances applied to the body, as Oil &c. 4. Cold, 5. Venereal gratifications, 6. Grief, despair, &c. Criminals generally sleep sound the night before their execution, and in fact from the time sentence is passed, as the excitability is exhausted by the abstraction of Hope. The Causes which raise the excitement to the sleeping point are 1. Labour, & body &c.

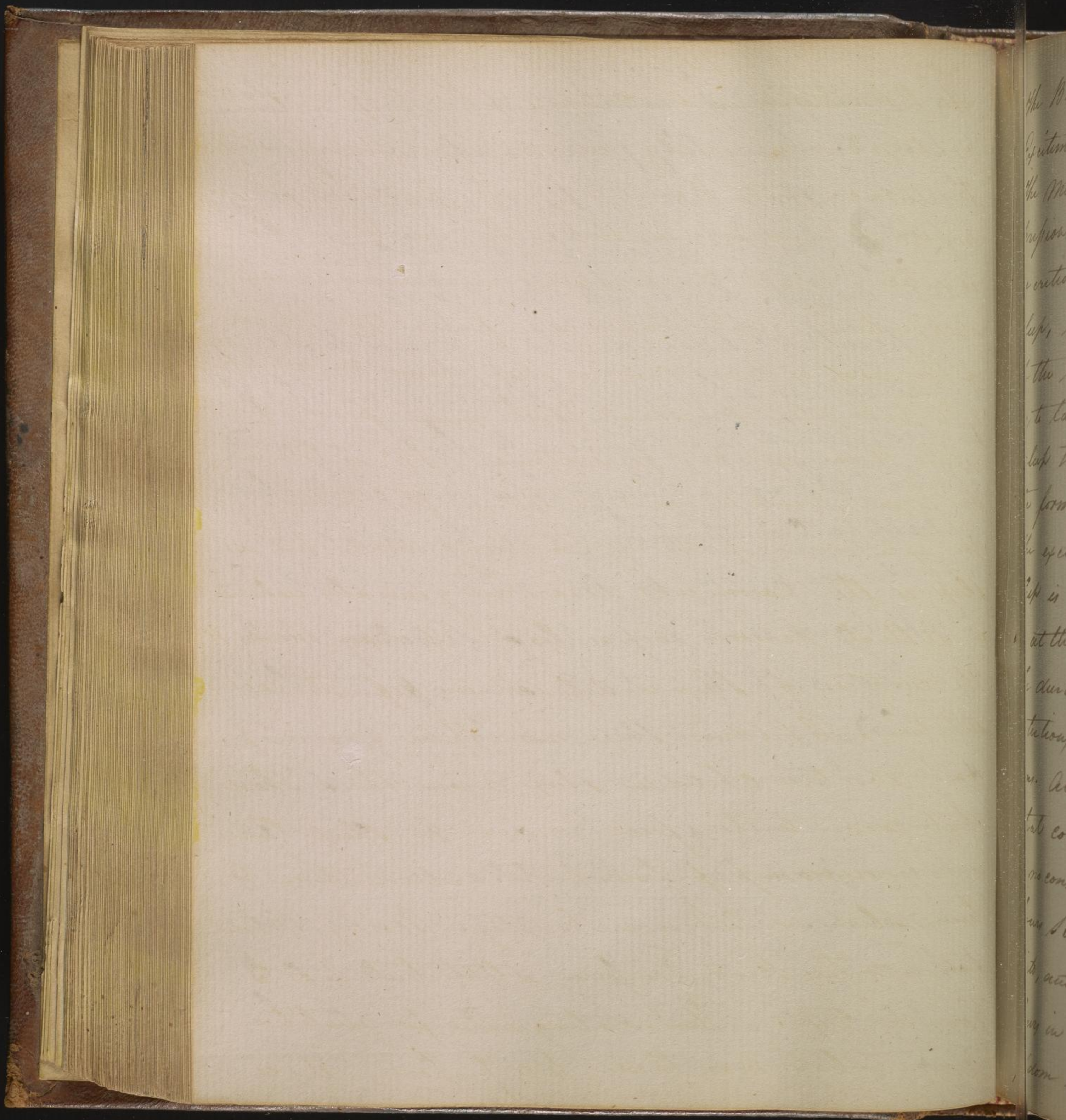


2. Elements and drinks. 3. Sounds; there was a watch maker in this city who could not sleep except he heard the ticking of watches which he was accustomed to. 4. Heat. 5. Exercise of the understanding. General sleep sound after a Boutto. 6. Rain falling on the roof of a house. 7. Dephylogistated Air. Animals in a torpid state, may be resuscitated by dragging them from their holes, altho' the atmosphere may be below the freezing point. 8. Pain. Women generally sleep sound after parturition. When the excitement is above the sleeping point, Sedatives should be used; when below it, Stimulants, as Opium, Tea, Coffee, &c. too much of these would bring on indolent debility; 30 drops of Laudanum might raise us as far above the sleeping point, as we were below it. In ascertaining what quantity of stimulus is necessary, we must always be directed by the pulse. Dr. Darwin says if you wish to sleep, think of some person that has injured you, or interesting subjects prevent sleep.



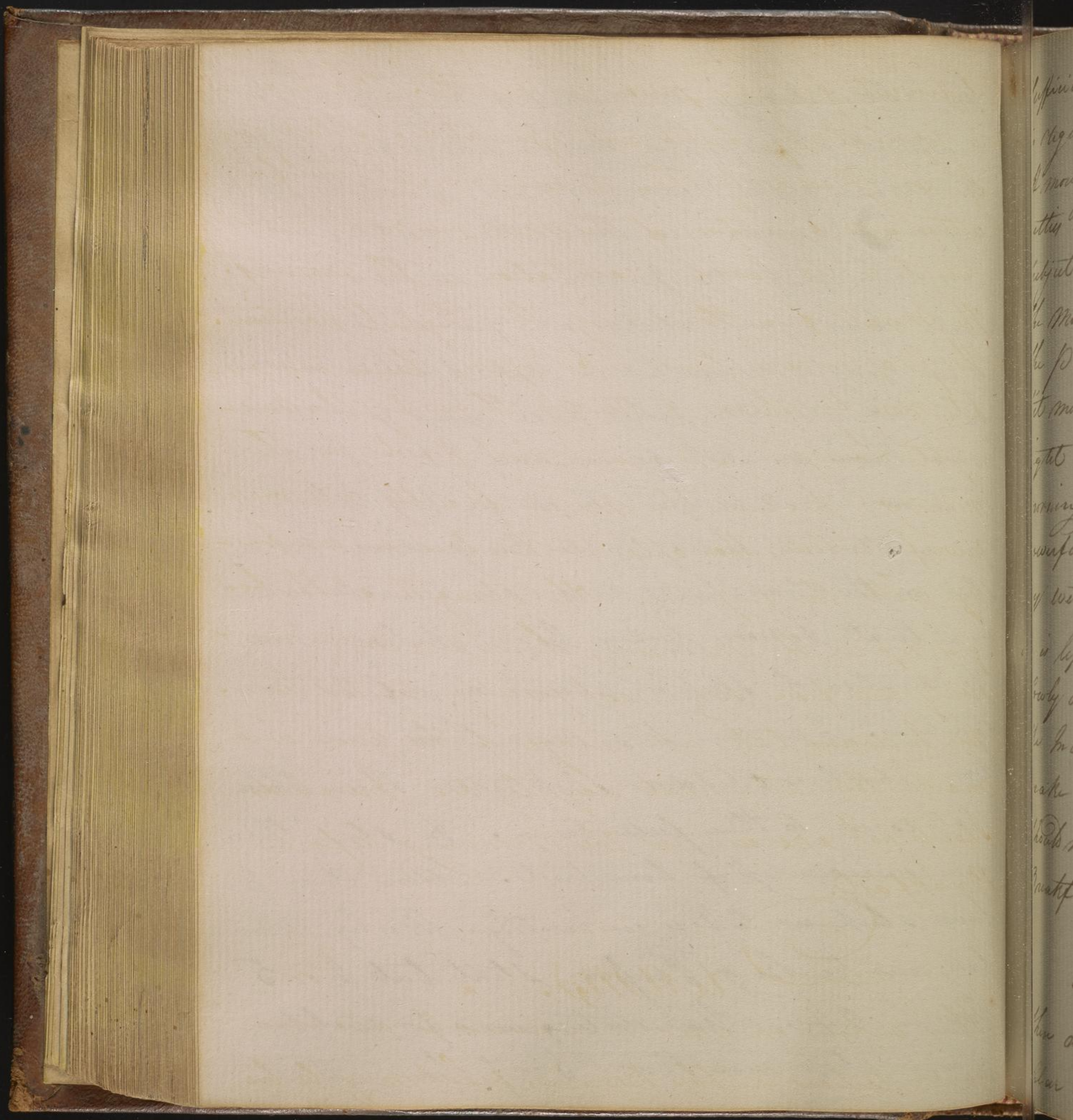
The stimulus of light induces sleep in convalescents, hence they fall asleep at daybreak. Knowing that law in the animal economy, which requires the action of stimulus, in debilitated bodies, to elevate them to the sleeping point, I have directed a lamp to be placed in the chamber of patients, in this situation, which has uniformly had the desired effect. I know a Lady who never could sleep without a candle burning in her room, and who always awoke as soon as it went out.

Sleep begins with a prickling sensation in the Eye-lids, next the intellects are assailed, then the head begins to totter, and lastly, the whole system. There is a morbid action in sleep, hence we start from the sudden change which is produced by the abstraction of sensation and motion. The functions of the senses are suspended, the pulse becomes fuller, owing to the relaxation of the skin, and the translation of strength from the muscles to the arterial system, and to the heat of the bed clothes.



The Blood-Vessels in the extremities of the body in sleep. Excitement is unequally divided, and lessened in sleep. The Motion of the Bowels is lessened, hence the supposition of Diarrhea in sleep. The secretions and excretions, except perspiration, are diminished in sleep, hence great sleepers are fat. The Heat of the body is diminished in sleep, hence we are likely to take cold. We should perish much sooner if asleep than awake, for instance, 12° of Cold in the former would be equal to 20° , in the latter.

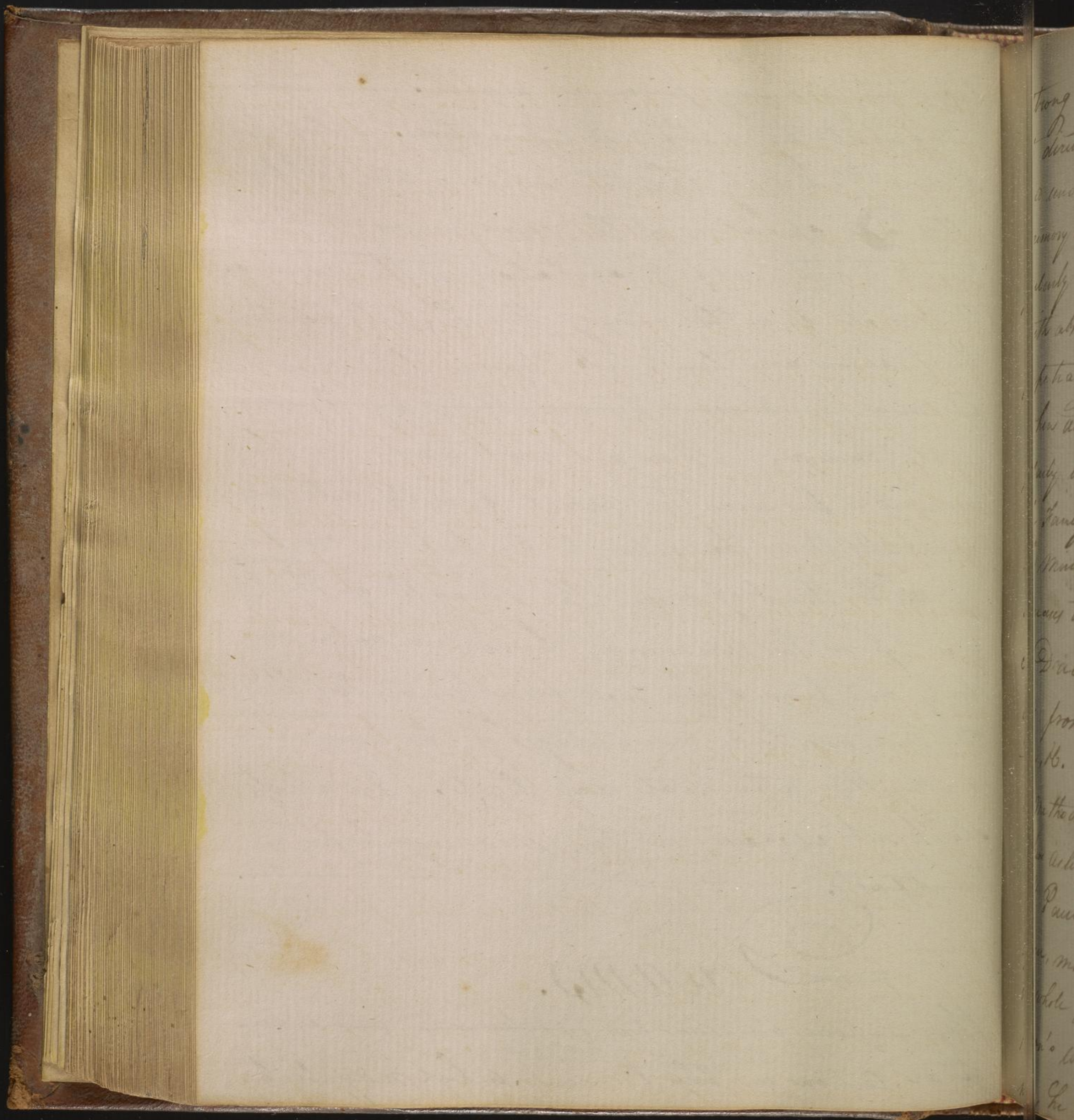
The excitement of the System being diminished in sleep is the reason why diseases are generally ushered in at that season, such as Gout, Epilepsy, Truss, &c. The duration of sleep is different in different Constitutions. Children sleep more than grown persons. Abortive children sleep more than those that come to their full time. In sleep there is no consciousness of time past. More than 8 hours sleep in 24 is unhealthy. Wesley, White-fists, and the King Prussia slept but 4 or 5 hours in 24. Men, distinguished for abilities, seldom sleep more than 6 or 7 hours, it is



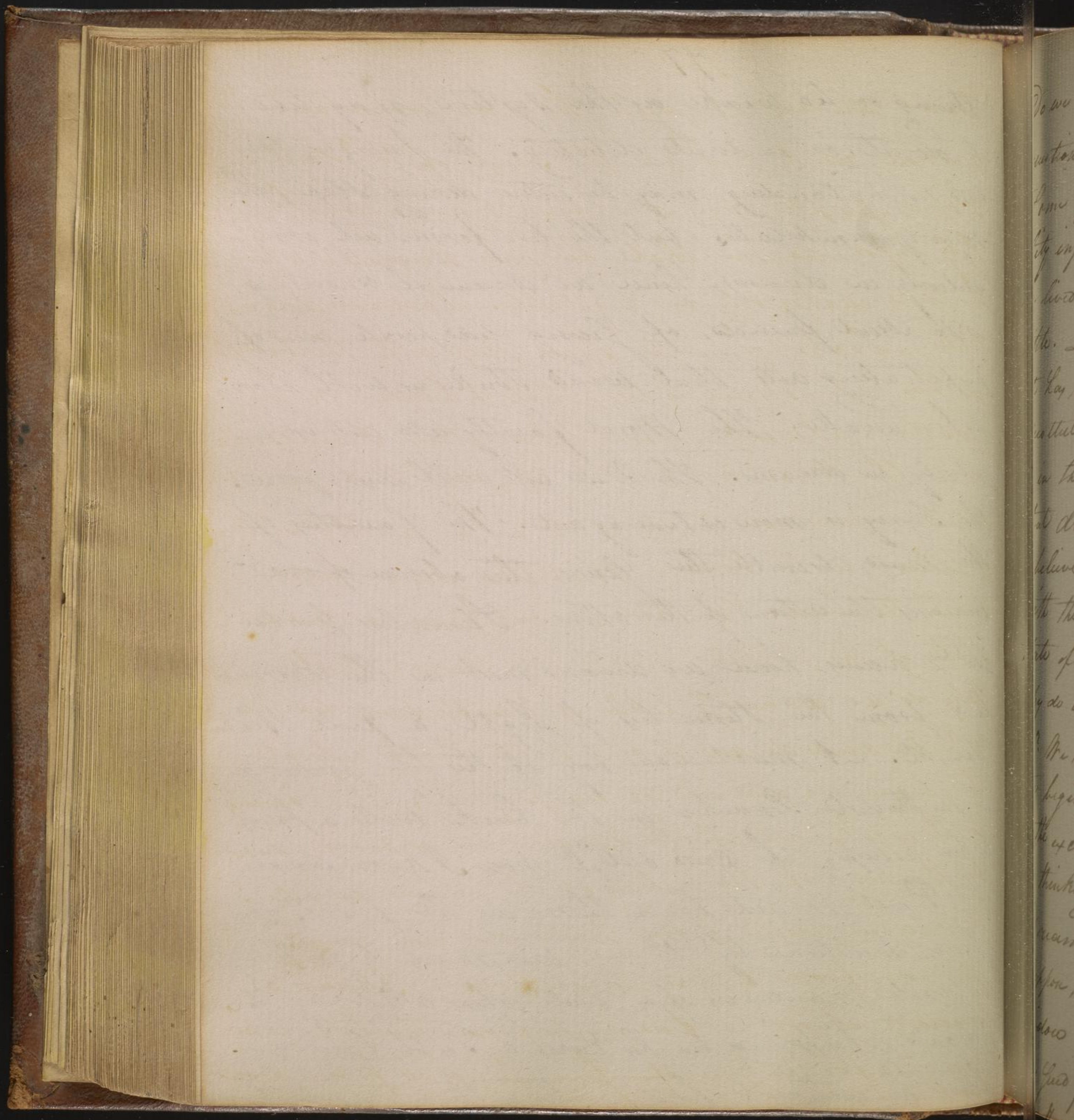
Sufficient for any person in health. The time is regulated by habit and association. Sleep goes off more suddenly than it comes on. All the faculties and operations of the mind are, as it were, subject to the laws of gravitation in the morning. The moral faculties occupy the highest position. The passions are sunk into sleep, hence we profit more by morning studies, than by the midnight lesson. Men are most honest in the morning, because the moral faculty acts more powerfully then, than after it has been in company with the passions. The strength of the body is less in the morning, hence we move most slowly and fear seizes most forcibly, at this time. The Indians take advantage of this time and make their attacks at day light. Invalids should not exercise in the morning before Breakfast.

DREAMS.

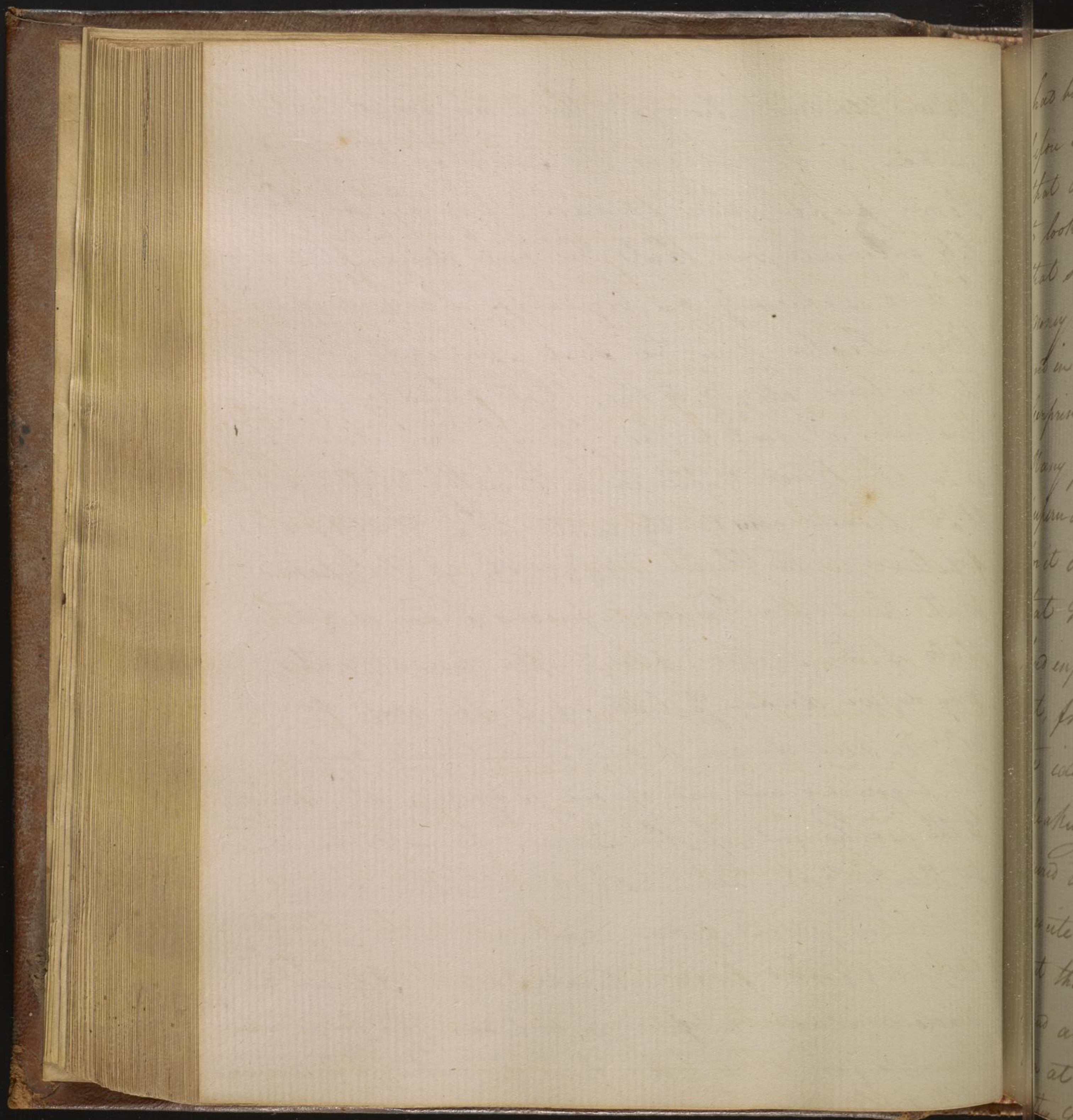
These depend on morbid excitement and irregular action in the Brain, which may be too



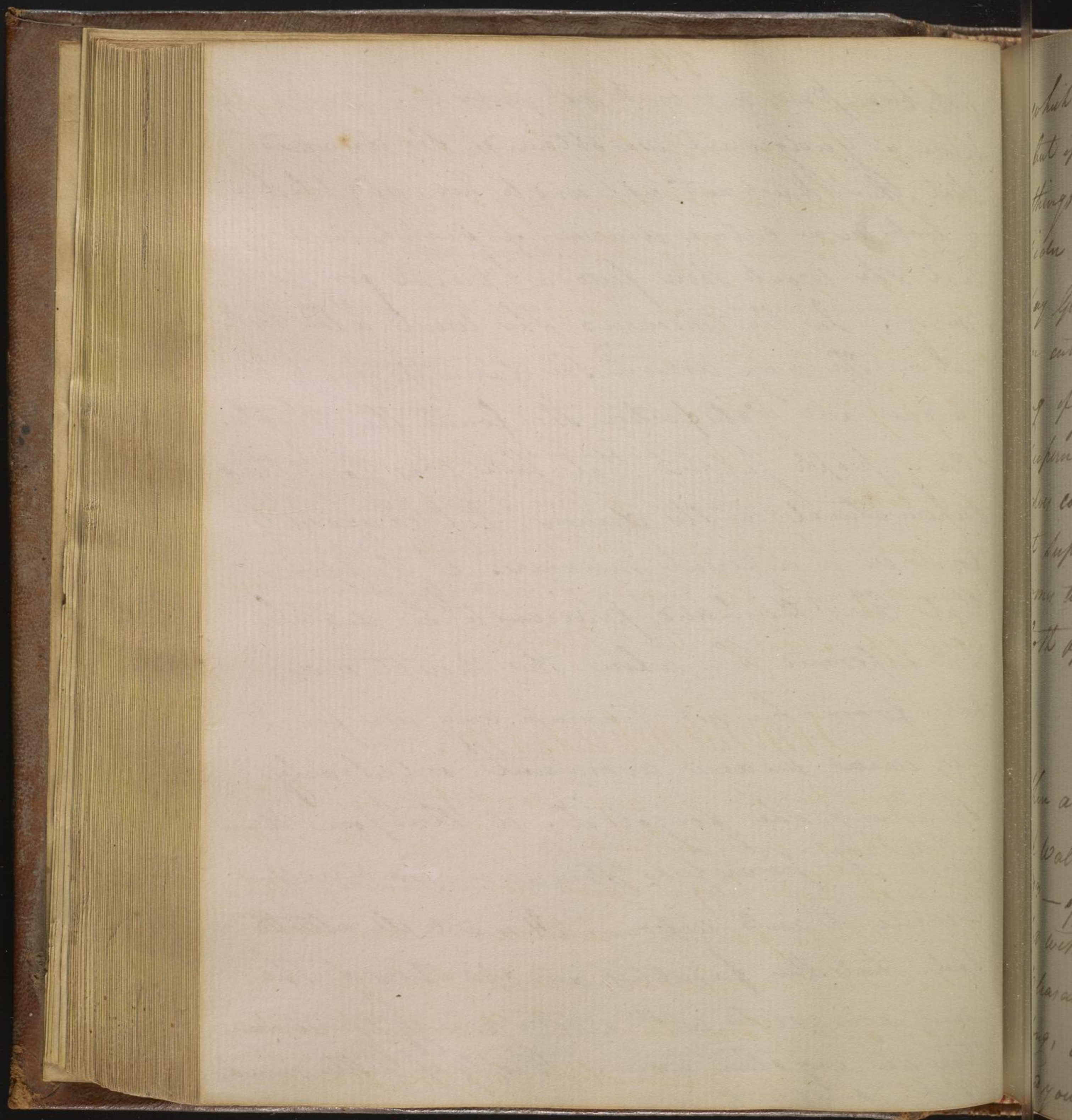
Strong or too weak, as the system may tend to direct, or indirect debility. The Imagination and understanding may be entire during sleep, the memory annihilated, but the two former act irregularly in dreams, hence we dream of conversing with absent friends, of seeing dead people, and of perpetrating acts that would strike us with horror when awake. The Moral faculty also acts irregularly in dreams. The Will acts with more force. The Fancy is more extravagant. The faculties of the mind resemble the Jesters, the abuse of one increases the action of the others. Stimulus produces Dreams, hence we dream most in the morning from the stimulus of light, a full bladder, &c. A mischievous boy of this city, pricked a Methodist Preacher in the back with a pin, when asleep; he cried out, "O now I know what St. Paul meant by a thorn in the flesh." An officer, mentioned by D. —, was made to go through the whole manœuvres of a Duel when asleep, by some person's whispering in his ear, a Pistol being given him, he instantly fired it, the explosion awoke him.



Do we dream always? this is an important question, as it embraces the sleep of the Soul. Some people never dream. A man in this city informed me that he never dreamed when he lived exclusively on vegetables. Labourers dream little. Locke says the Soul sleeps with the body; it has been objected to this, that children never rustle. I would as soon believe that Fever exists in the Blood-Vessels in a healthy state, as that dreams constantly exist in a healthy state. I believe, with Locke, that the Soul sleeps with the body. Dreams proceed from a morbid state of the system, old people dream most. Why do we dream so little of people most dear to us? We never dream of our Sweet-Heart only at the beginning and end of our passion; it is owing to the excitement of the Brain being worn down by thinking of the beloved object when awake. Dreams proceed from natural, and many suppose, from supernatural causes. I knew a widow Lady a few miles from this city, who was paid for the sum of five hundred pounds on



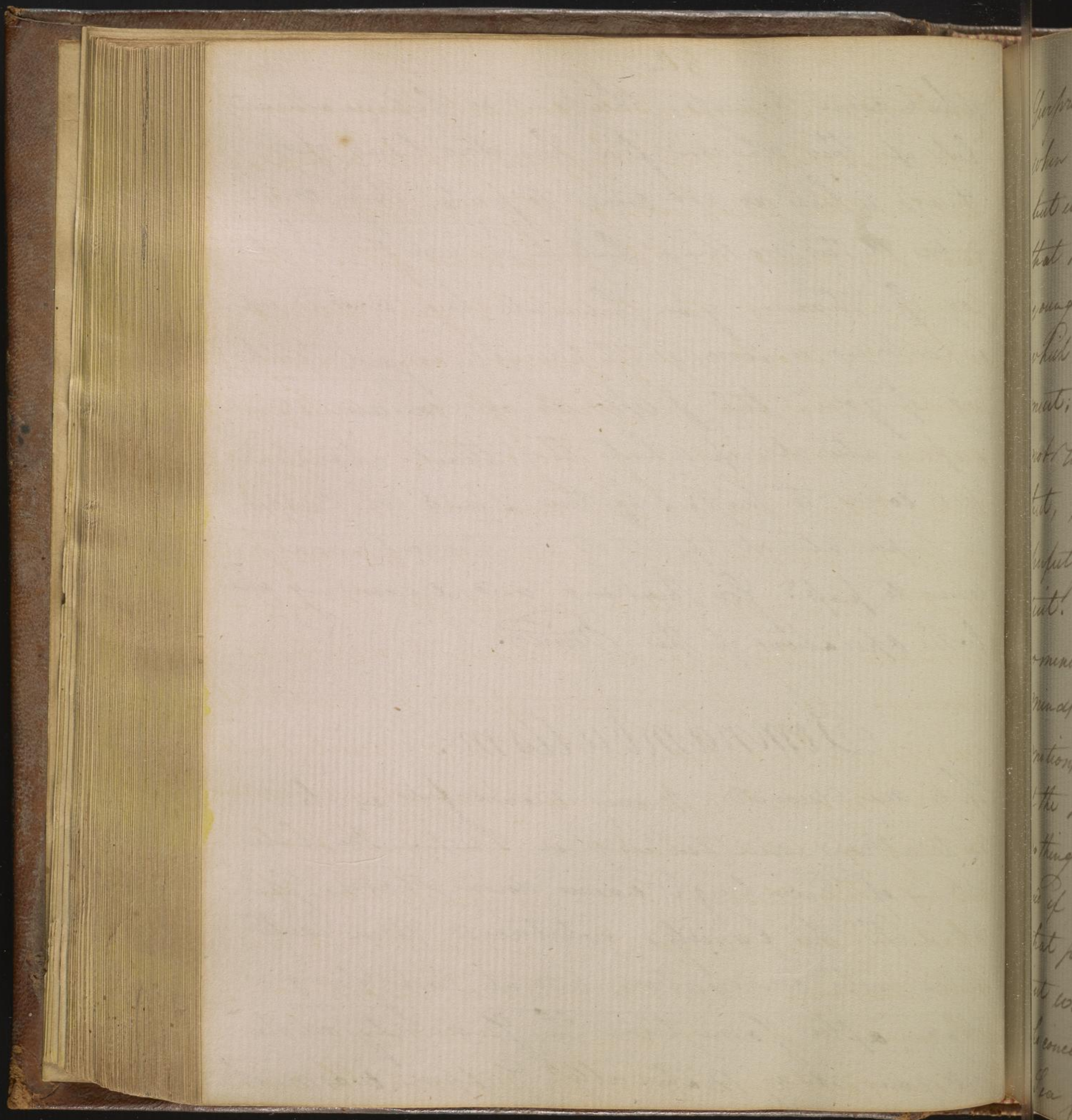
had been paid, but could not prove it. One night, before a judgement was obtained, she dreamed that her Husband appeared to her, and told her to look in a certain drawer, of such a desk, and that she would there find a Receipt for the money. In the morning she went to the desk, and in the very drawer she dreamt of, to her surprise and satisfaction, she found the Receipt. Many people suppose that there was something supernatural in this dream; but I account for it in a different manner: I suppose that her Husband, previous to his death, had informed her where this Receipt was, but, from her not having any use for it, the idea became dormant, or vulgarly speaking, she forgot it, it therefore required the powerful stimulus of a dream to excite it into action. It is a well attested fact that the faculties and operations of the mind are exerted with greater energy in dreams, than at any other time. People of little minds, I then suppose to dream more frequently than



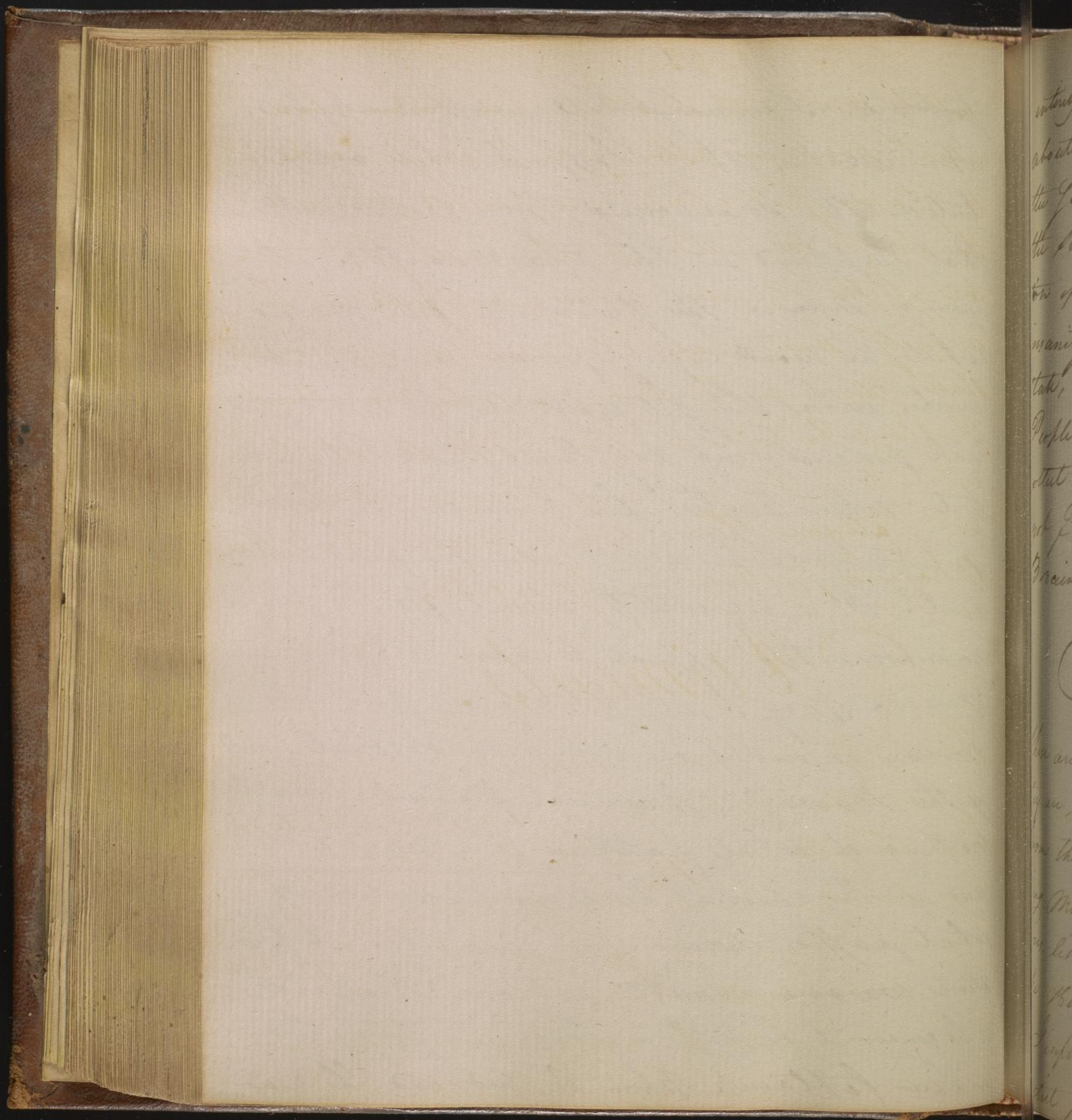
which come to pass, think it is supernatural, but if they dream five hundred times of things which do not come to pass, they consider it, "as nothing but a dream." I dare say Gentlemen, you have all been accosted upon entering a room, with "O I was just thinking of you", but people do not consider it supernatural, if what they think about does come to pass; why then should we suppose it supernatural if what we dream about comes to pass? For thinking and dreaming are both operations of the Mind.

Somnambulism.

There are, recorded, many wonderful exploits of walking and talking in Sleep. The late Dr. — of Edinburgh came down stairs, supped with his family, entertained them with pleasant conversation, and at last sang a song; after some time he suddenly awoke, and you may naturally suppose was much



surprised. Sam-mambuli cannot remember
 when awake, what happened, while asleep,
 but in the succeeding, they recollect all
 that happened in the preceding fit. A
 young man in this subject to fits, during
 which he would eagerly pursue some employ-
 ment; when the fit went off, he would quit,
 not remembering any thing that happened;
 but, when another fit came on, he would
 perfectly recollect, and resume, his former pur-
 suit. It is difficult to account for this phe-
 nomenon; they appear to have two distinct
 minds; May it not proceed from putrefactional
 motions, or impressions acting on different parts
 of the Brain? Maniacal patients remember
 nothing of what passed in their sound state,
 and if they recover, have no recollection of
 what passed, during their insanity. A pa-
 tient was once admitted into our Hospital,
 who conceived himself a Lord, and sometimes
 a Sea Captain: When he recovered, he was

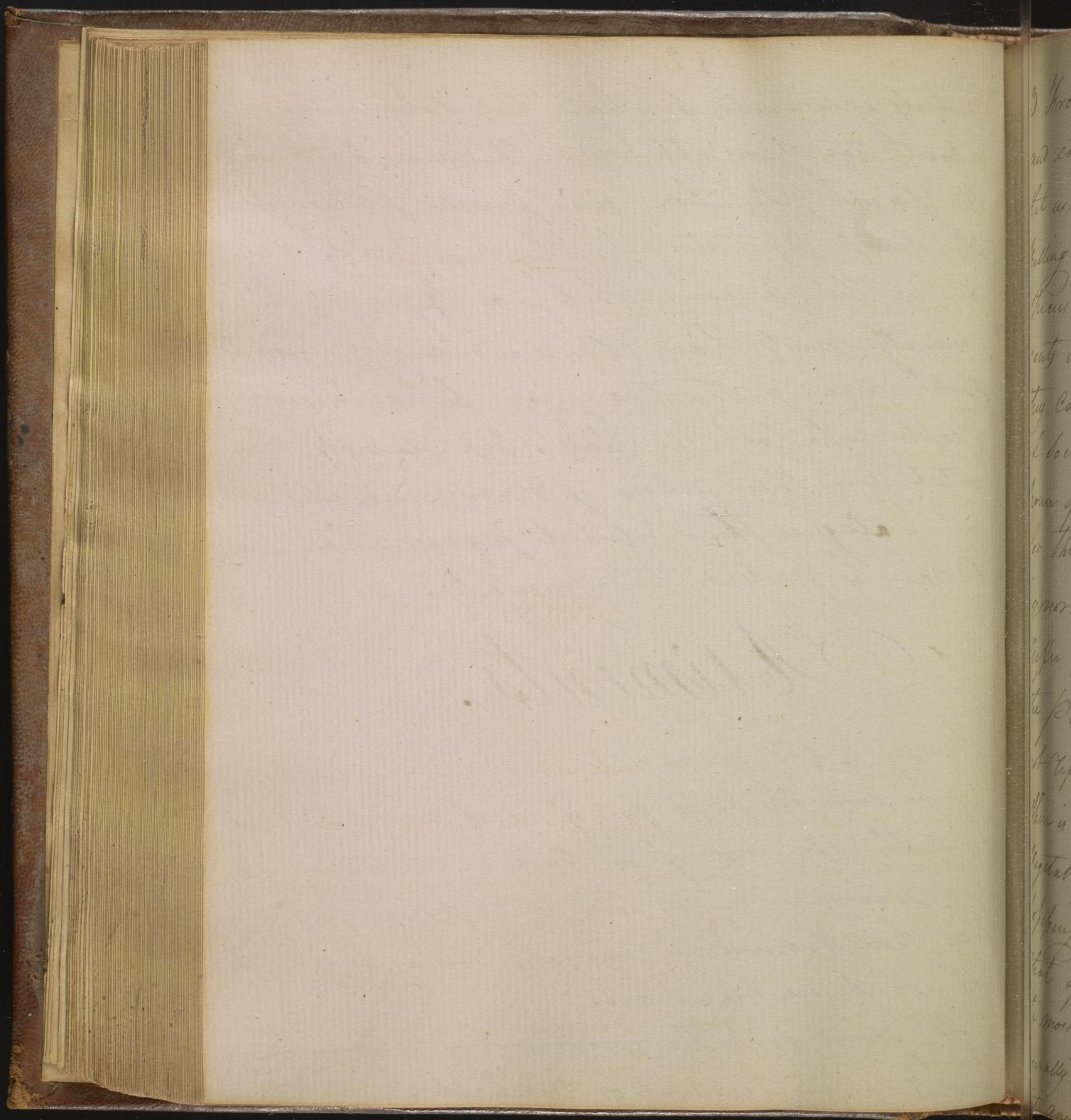


entirely ignorant of what had taken place: about two years afterwards, he came back in the same situation, and pursued precisely the same conduct. In this case, that portion of the Brain, which was affected in his insanity, must have remained in a quiescent state, during the two years he was absent. People who talk in their sleep do not recollect it. The actions of Somnambuli do not fatigue them, which proves that the Brain is preternaturally excited.

Aliments.

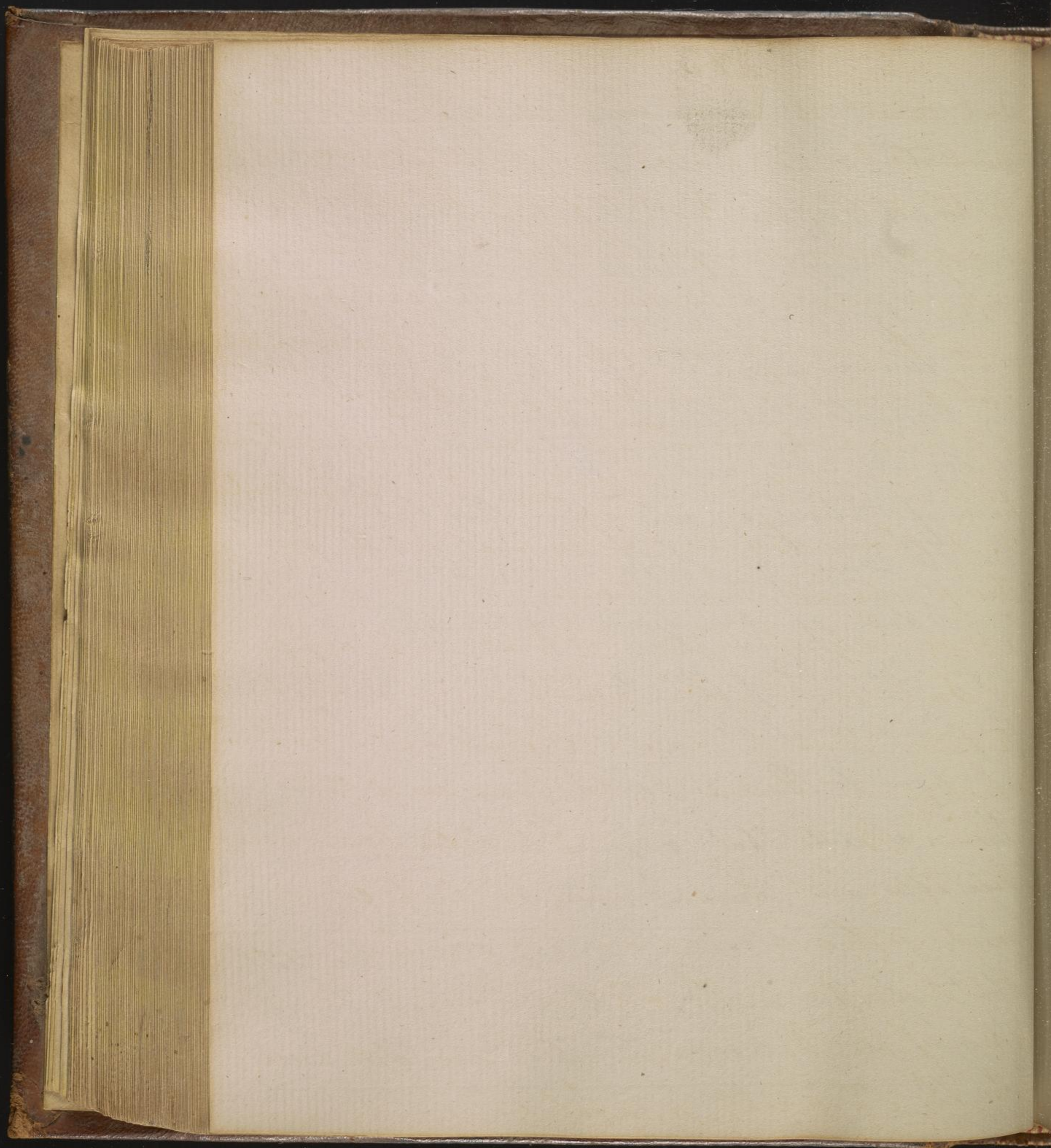
There are of two kinds, 1. Animal, 2. Vegetable; they are both the proper food of man, as is evident, 1. from the structure of his Teeth and Intestines, having Molars or Grinders like pyterous; and Incisors, like Carnivorous Animals; also a large seton like Herbivorous Animals.

2. Inferior it from the inconveniences attending a diet purely Animal or Vegetable.



3. From divine command, "Use Peter, slay and eat," is an injunction in the new Testament. Let us not suppose that there is any cruelty in killing Animals, it tends to perpetuate the Species by making room for others, it prevents disease and the effects of old age, for they cannot like Man enjoy the pleasures of social life, and as they do not possess the power of killing each other, they would die for the want of sustenance; from their ignorance of the nature of death, they suffer nothing from apprehension, and even the pain of death which they feel, they do not refer to their disposition.

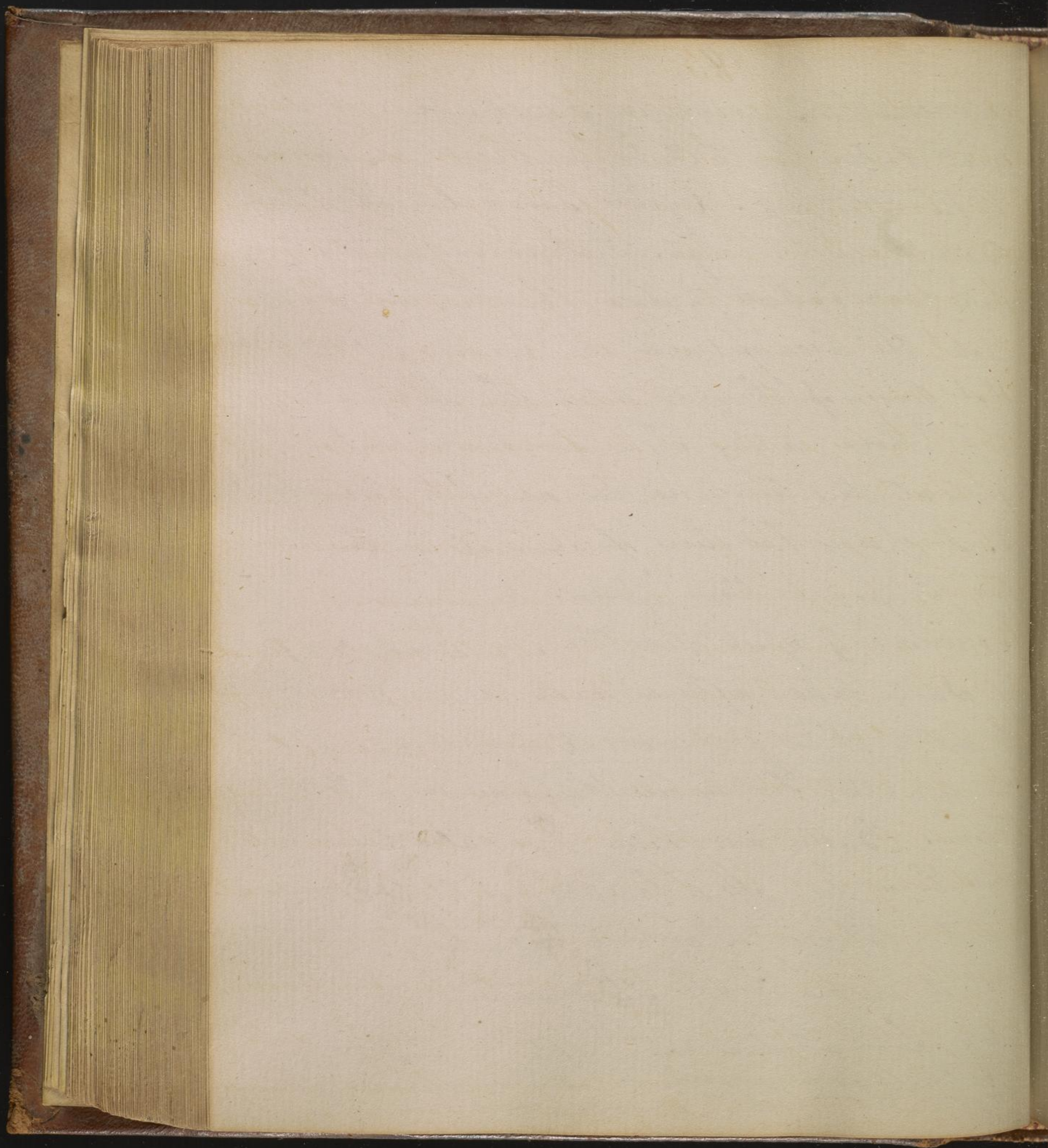
There is a diet that appears to be between Vegetable and Animal, such as Eggs, (the white possessing the properties of Vegetables, the yolk that of Animals). Milk, &c. Vegetables afford the most food to man. The Grass is the most generally used. Haller supposes that Fish was the first animal food of man, as there is the



and emit no groans in dying. A little Salt
 meat taken with Fish makes it set easier
 on the Stomach. Oysters should be eaten raw
 or only warmed through. Lent is an institution
 well calculated to preserve Health, and perpe-
 tuate the lives of Animals, because it occurs in
 that season of the year when the body is disposed
 to Plethora, hence Fish are more proper than
 flesh at this time as they are less stimulant.
 2. It spares the lives of Animals at the time
 they propagate their species.

Condiments assist digestion, a tea spoonful
 of Salt taken after a meal will promote
 it better than a draught. Vinegar is a good
 condiment, Pickles are Vinegar in a solid
 form. Butter and Wine have also been used,
 but he is best off who uses no such condi-
 ment. Horse-Radish has also been used,
 but it impairs the Stomach.

Any food that is agreeable, and sets well
 on the Stomach, is wholesome.



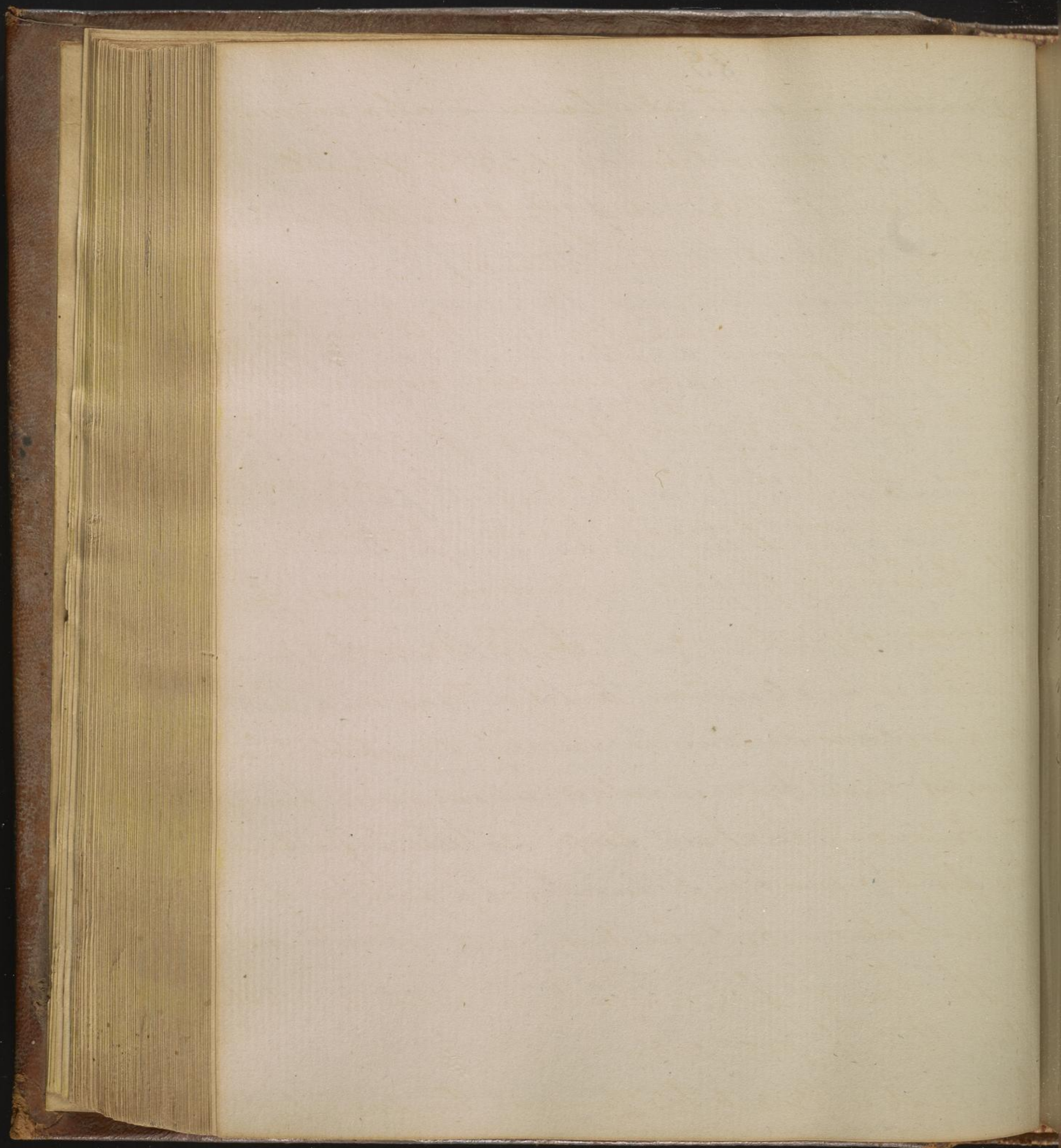
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Aliments are considerably influenced by Idiosyncrasies. Man, like the Horse and many other Animals, requires food often in the day, and it should be taken in small quantities.

The advantages attending this mode of living are, 1. it is easier digested. 2. It can pass more easily into the Duodenum. Rest is necessary after eating as it favours digestion, but we should not lie in a decumbent posture.

Sleeping after a full meal gives us Head-ach, Stupor, and puts us in an ill humor.

Bitters are injurious as they excite an artificial appetite, and cause us to take more Aliment than we can digest. Too much Aqueous fluid taken at a meal impairs digestion, by diluting the Gastric juice, and hurrying the Aliment too soon from the Stomach; half a pint at a meal is always sufficient. Carving injures the appetite, cutting on a tough Goose for a quarter of an hour will induce debility, I therefore advise you Gentlemen, always to avoid an encounter with one of these.



Drinking healthily at table is also injurious, as it causes those who do so, to swallow their aliment before it is sufficiently masticated, in order to return thanks.

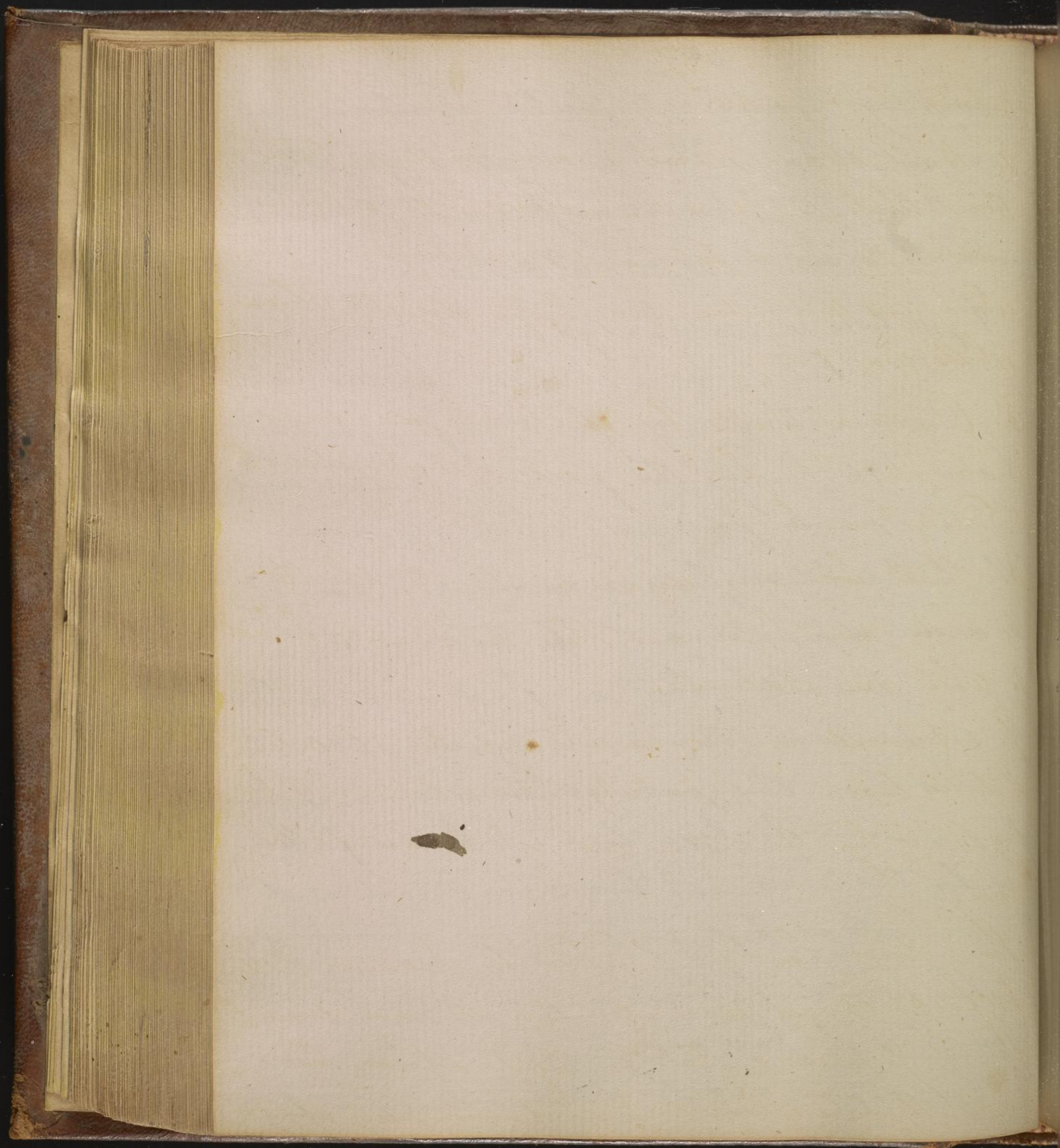
A question is naturally involved in this subject, which is, why were our bodies so constructed as to require food so frequently? because it brings the family together and by this means promotes social affections.

The solubility of food depends on the age, sex, manner of preparing, &c. of the animal, -

1. Those animals that are fattened in a hurry and without exercise are less digestible than such as have been indulged in exercise, hence the superiority of Irish But, which is fattening for two years, and hence the practices of Bull-baiting, Cock-fighting, and Hunting.

2. The lean of fat animals is more digestible than that of poor ones.

3. Meat is found to be tendered tenderer by



keeping it in water.

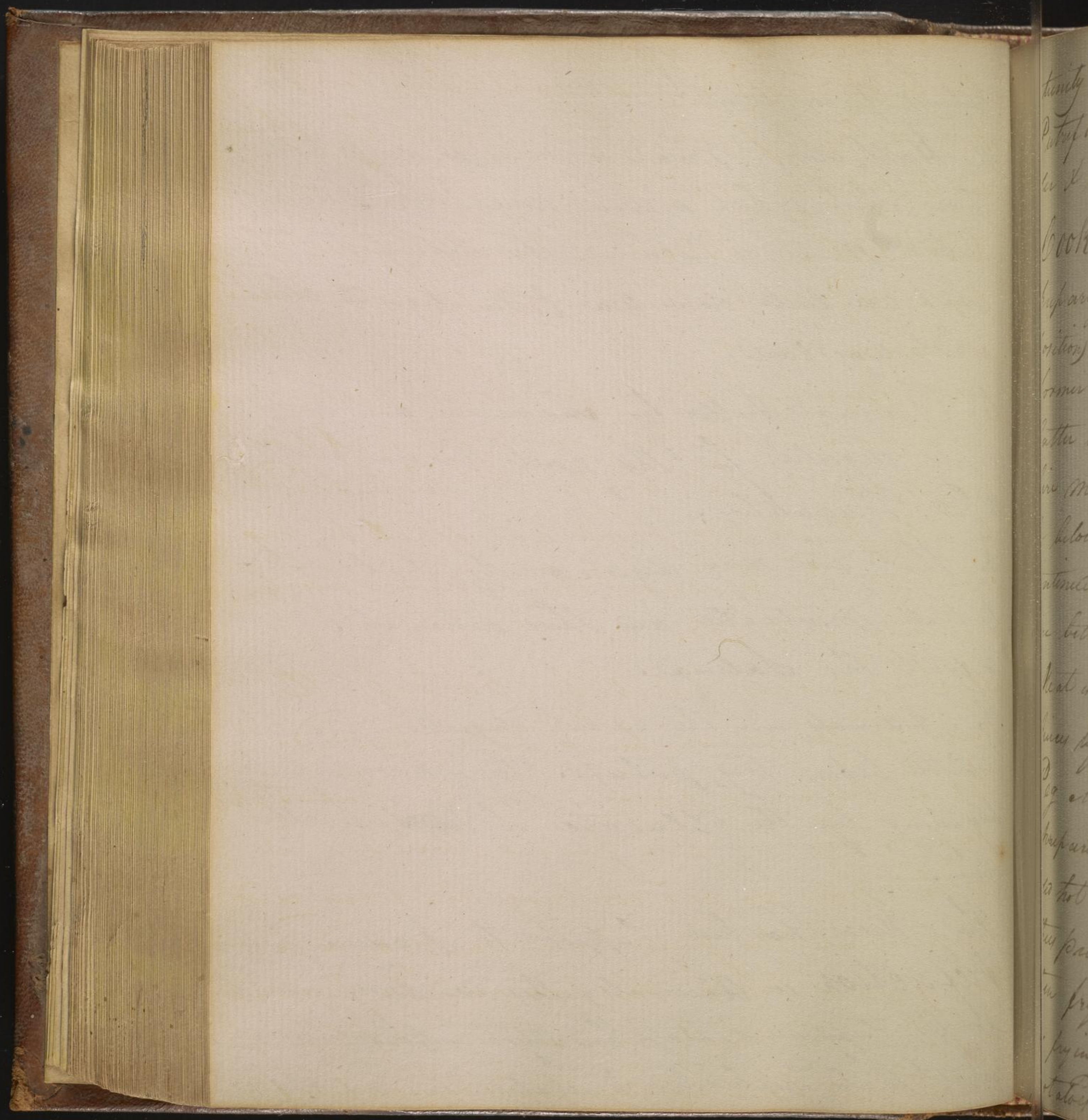
4. Half done Meat is more indigestible than that which is well done. Dr. Sturges enclosed Meat in tubes and swallowed it, that which was well done was better digested, than which was rare.

5. Animals killed by electricity are very easily digested; for this fact, we are indebted to Dr. Franklin.

6. That food may digest easily it should be well masticated, and thus intimately blended with the Saliva.

7. Animals are the easiest digested if eaten a little before they putrefy; this is known to be beginning by the relaxation of the Sphincter Ani.

The Moon has been supposed to produce putrefaction in Animals, this we may account for by supposing, that her light affords those insects that influence putrefaction, an oppor-

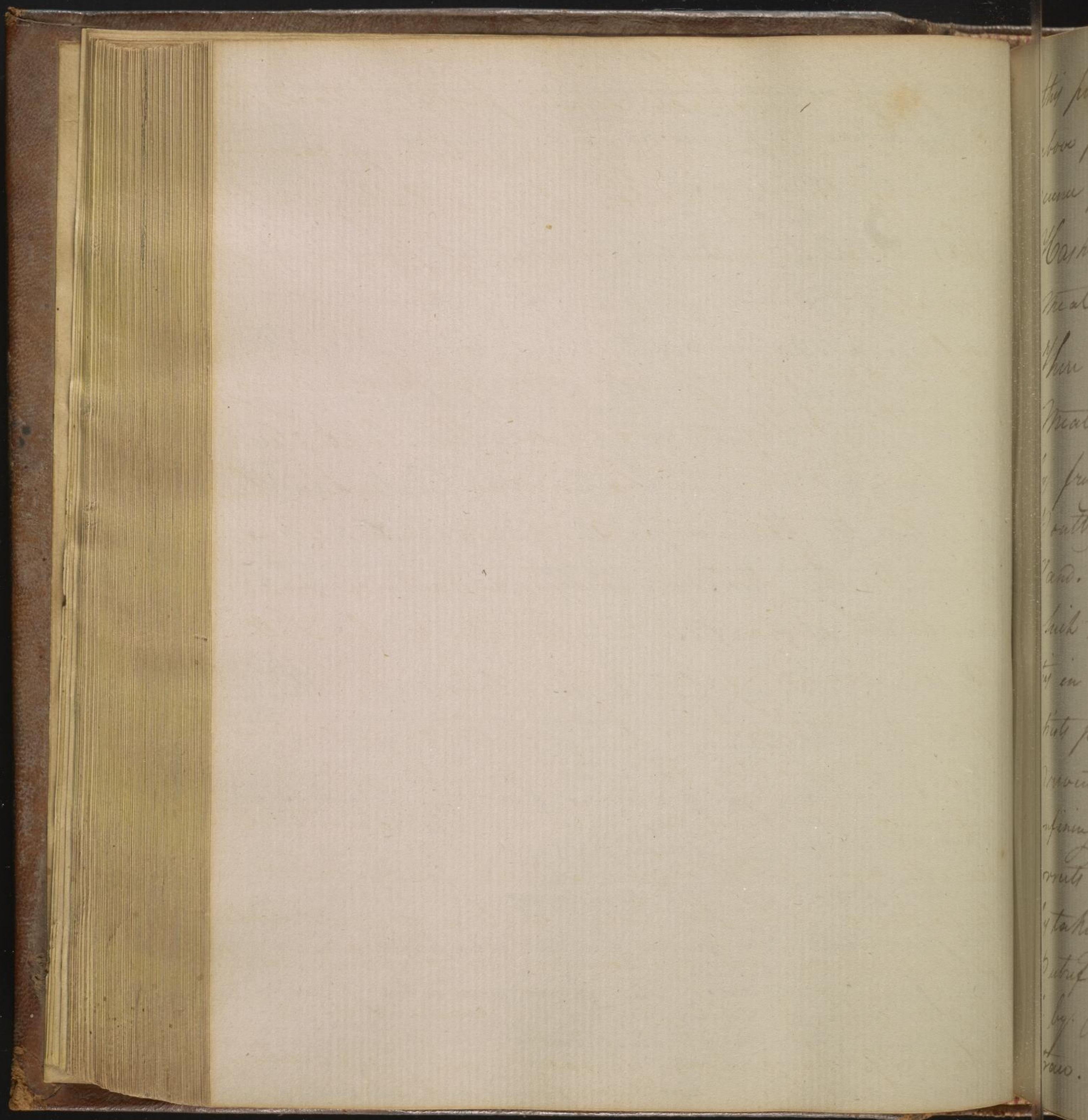


trinity of discovering Animal Substances.
Putrefaction is promoted and increased by Thunder & lightning.

Cooking. Broth is the best form of preparing Meat, there are of different compositions, as Barley-broth, Rice-broth &c, the former made of Meat, Barley and water, the latter with Meat, Rice and water. A slow fire makes the best broth. The heat should be below the boiling point and should be long continued, by this means the nutritive parts are better extracted.

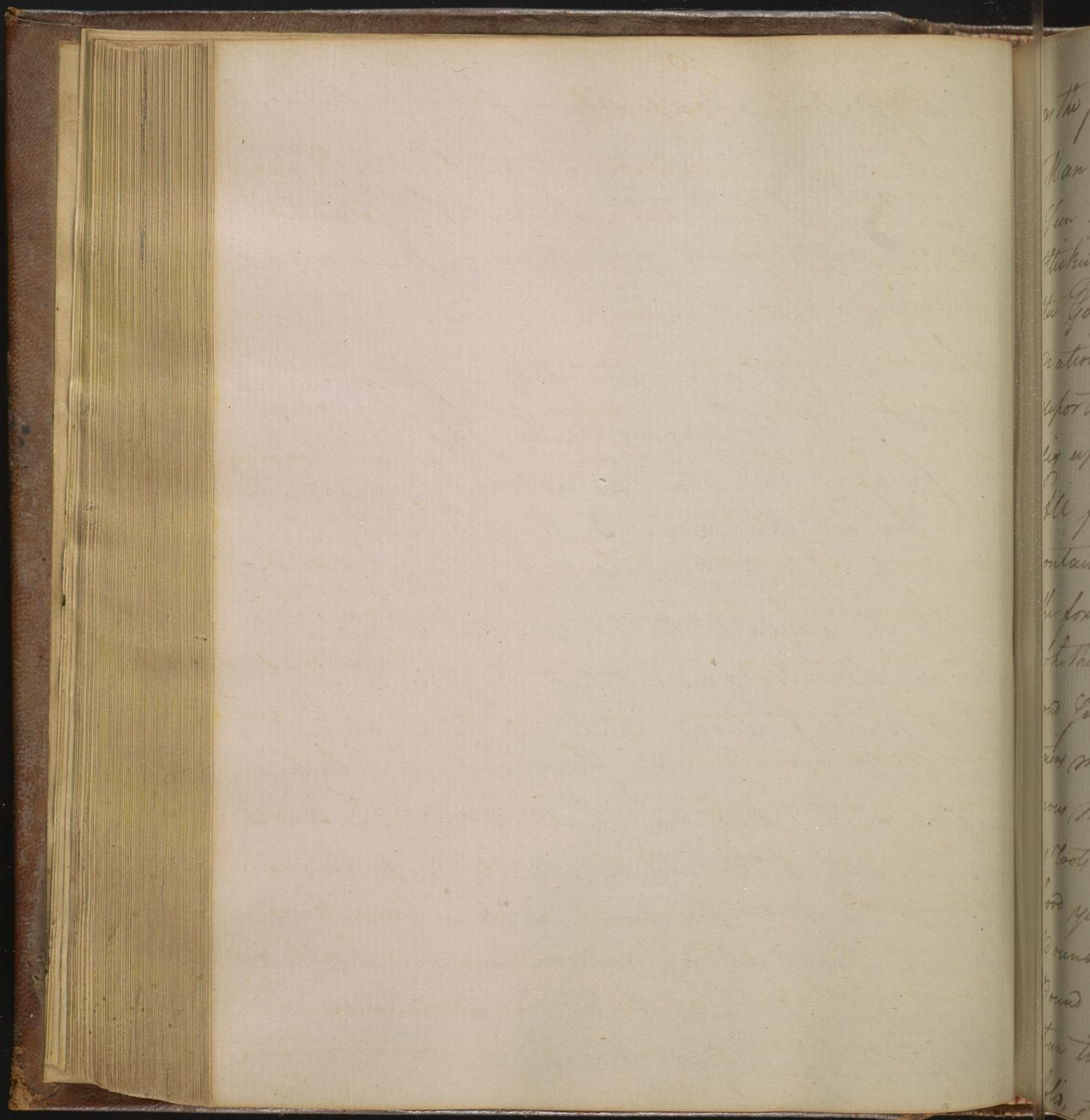
Meat is rendered soluble by roasting, the juices by this means being better preserved.

Legs of Mutton, so famous for Sir Buff-Steaks, prepared them by first putting them on a red hot Iron so as to constringe the fibres and thus prevent the juices from escaping, and then frying them. The juices are also preserved by frying the Meat in paste; a mixture of Potatoes and flour has been found very useful for



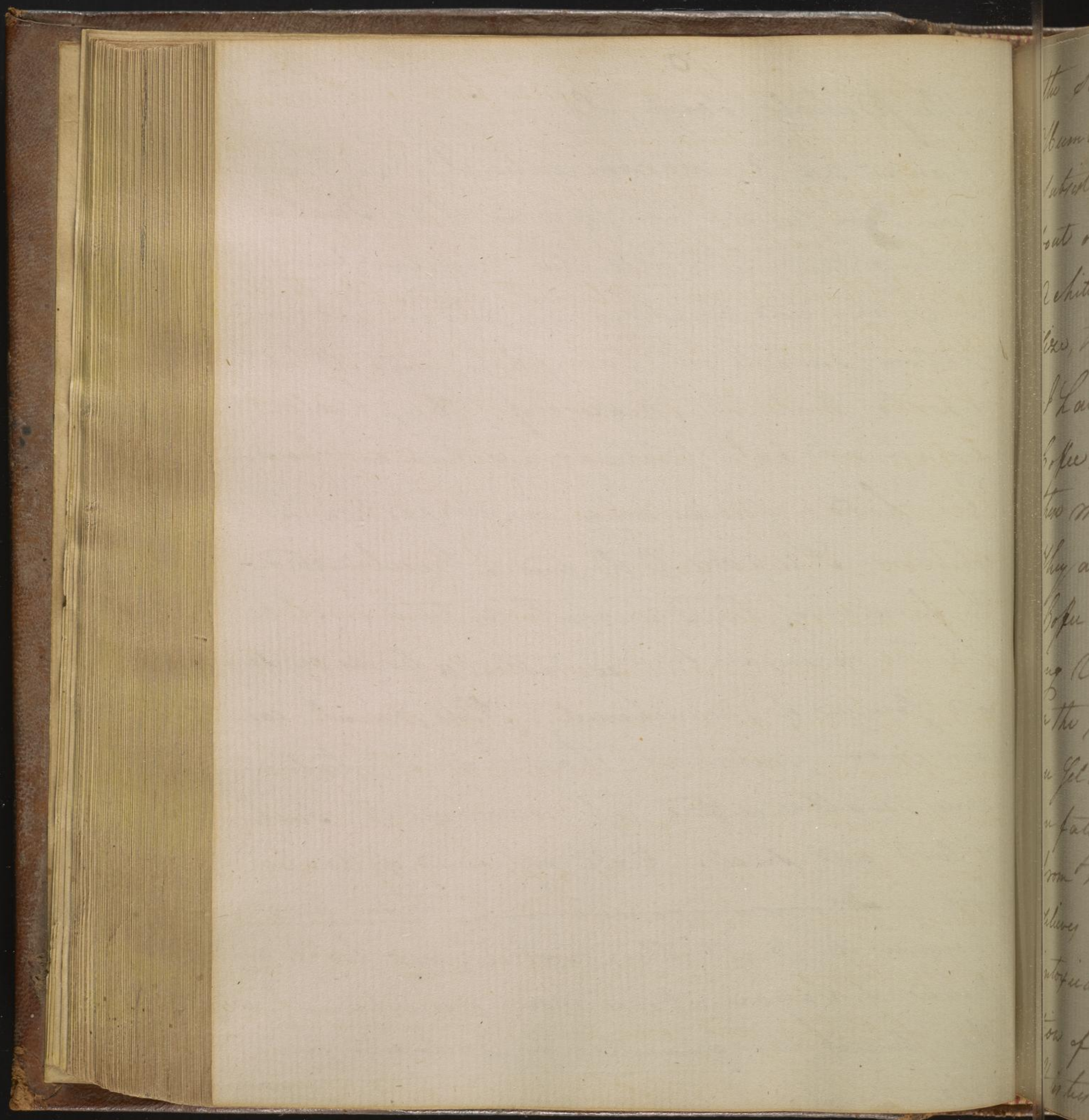
this purpose. Meat, simply fried, without the above precautions, is very indigestible, in consequence of the dissipation of its soluble parts. Washes are another good way of preparing meat.

There are many Methods of preserving Meat. 1, By drying it in the Sun. 2, by freezing it; the Canadians preserve their Poultry in this way. 3, by Molasses. 4, by Gaud. 5, by Smoke; there is a Salt in Smoke which it imparts to the Meat. 6, by Salt, this in small quantities disposes to, and averts putrefaction, but in large quantities prevents it: In the first case it acts by confining the humors, but in the second, it corrects and alters them. Meat keeps better by taking out the bone, as it is observed that putrefaction always commences at that part. 7, by Ashes, Bran, &c. 8, by covering it in straw. 9, by certain processes and preparations,



as the Patent Soup, &c.

Man is an Omnivorous Animal; we have
 seen him under the name of a Tartar
 sticking his Lute into the Jugular Veins of
 the Goat, and drinking its blood. Many
 Nations subsist on Raw flesh, and it is
 reported that the Negroes of Hispaniola
 dig up and eat putrefying human bodies.
 All food is nourishing in proportion as it
 contains Sugar, Oil and Mucilage.
 The former of these is most nutritious. Oil,
 whether Animal or Vegetable, affords a se-
 cond source of nourishment. Fat meat con-
 tains more nutriment than lean. Gluti-
 nous matters afford less nourishment, such
 as roots and seeds. Half a pound of Animal
 food yields more nourishment than two
 pounds of Vegetable matter; and half a
 pound of Sugar affords more nourishment
 than twice the quantity of Animal food.
 Solid, Stimulant food is more nourishing than

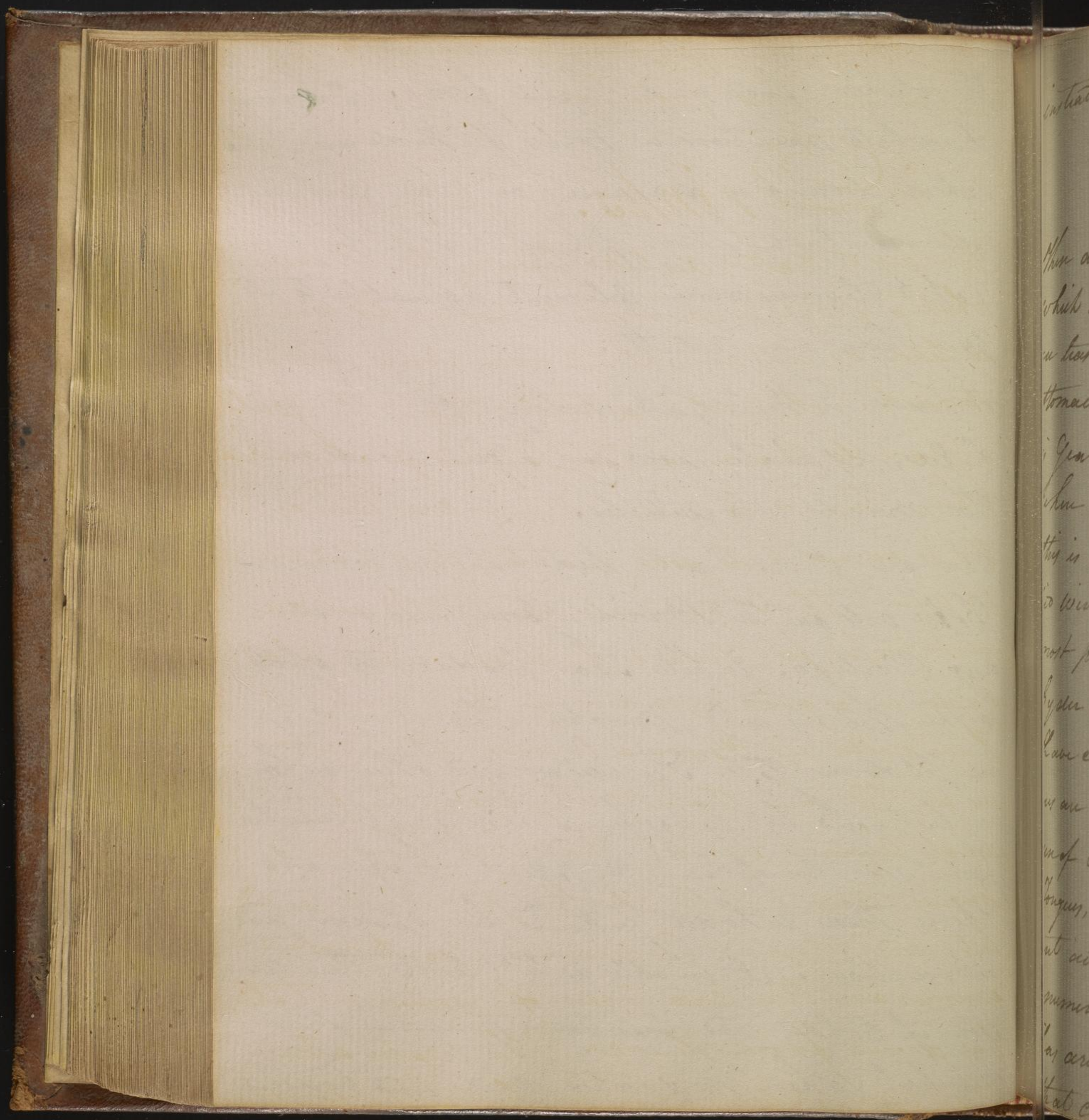


the same food in a liquid form. Barron Humboldt mentions a tribe of Indians, who subsist, during a famine, on clay with a -
 bout one table spoonful of rice in the day.
 A child requires more Aliment agreeable to its
 sex, than an adult.

I have hitherto said nothing on Tea and
 Coffee; I shall now say a few words on
 these much used articles.

They are Stimulant, but not nutritive.

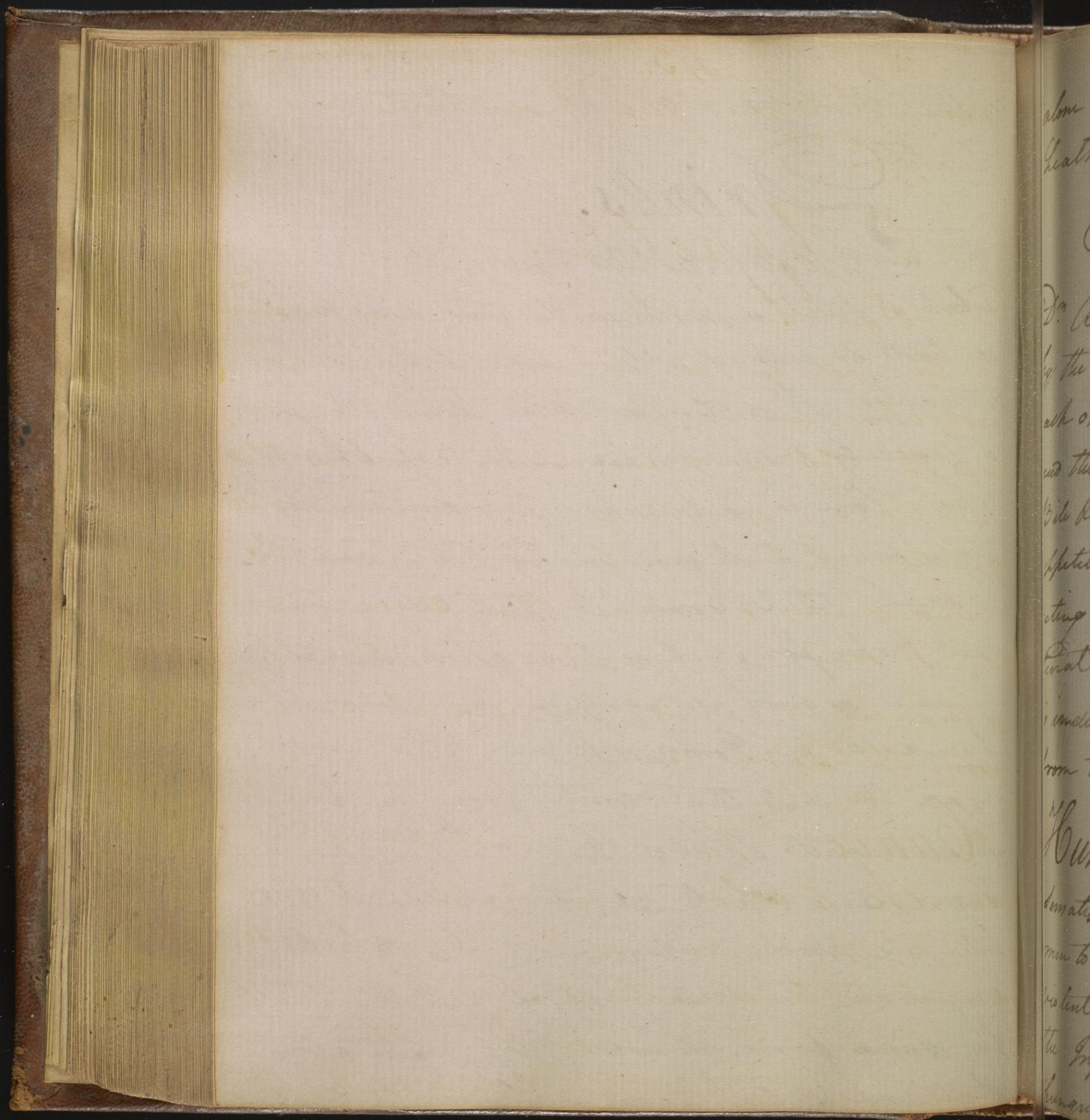
Coffee acts on the Brain, sometimes indu-
 cing Vertigo; while Tea produces its effects
 on the Nerves and Muscles. Tea drinkers
 are seldom fat. Surveyors and others who
 are fatigued by labour, derive great benefit
 from the use of Tea & Coffee. Coffee also
 drives those who are fettered by opium, and
 intoxication. It enables us to resist the ac-
 tion of Cold and sometimes prevents sleep.
 It is best when moderately dried, and bruised



92.
instead of being ground.

Drinks.

Then our Ratto, distilled liquor, &c. Wine which is sweet is most nutritious. Old wines are least so and are apt to turn sour in the stomach. It is remarkable that the Gout is scarcely known in the Island of Madeira where there is so much wine consumed; this is owing to its good quality, it is bad bad wine that generates Gout. Wines are most proper for such as take exercise. Old Cyder is as good as many of the Wines, I have called it Pomona wine. But numerous are the evils that result from the use of Ardent Spirits; Had I a thousand Tongues, armed with all the Powers of Antient and Modern Eloquence, I could not enumerate the Catalogue of miseries that has arisen from its use. 'Tis Water alone that can satisfy us in a Glass 'Tis Water

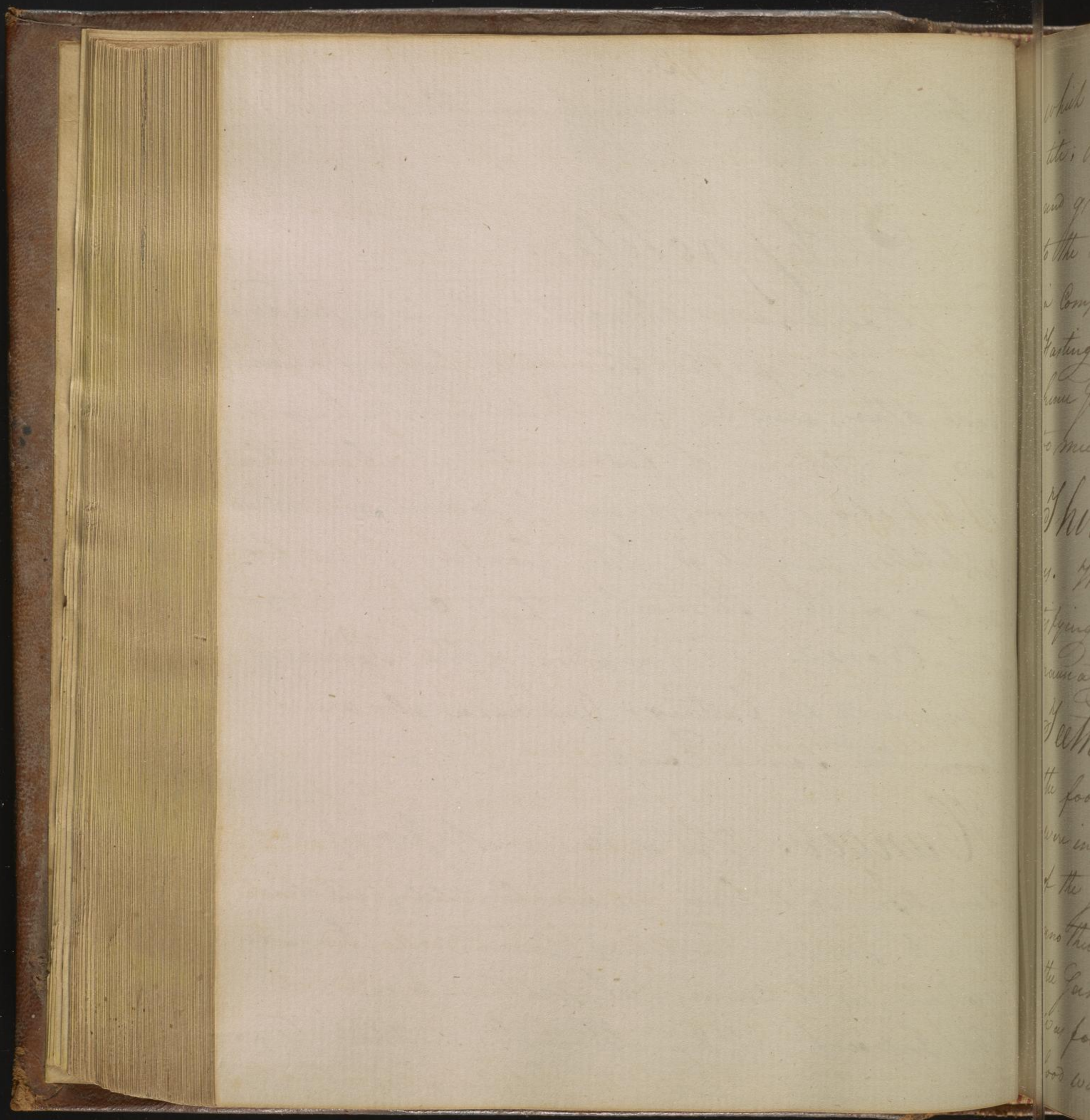


alone that can quench our thirst in
Health.

Appetite.

Dr. Boerhaave thought this was produced
by the sides of the Stomach rubbing against
each other, and by the Bile irritating it,
and the liquors of food in it. I allow that
Bile & also Worms, may produce a morbid
appetite, but it is the Gastric Juice, by
acting on the Stomach, that causes a na-
tural one. Relaxation of the Stomach
is induced by fasting; Anorexia also arises
from the same Cause.

^{re} Hunger. This is the most painful
sensation to which we are liable; it drives
men to murder and has sometimes been so
violent as to cause the Mother to suck
the Infant at her Breast. There is a
hungry point (like the sleeping point) at

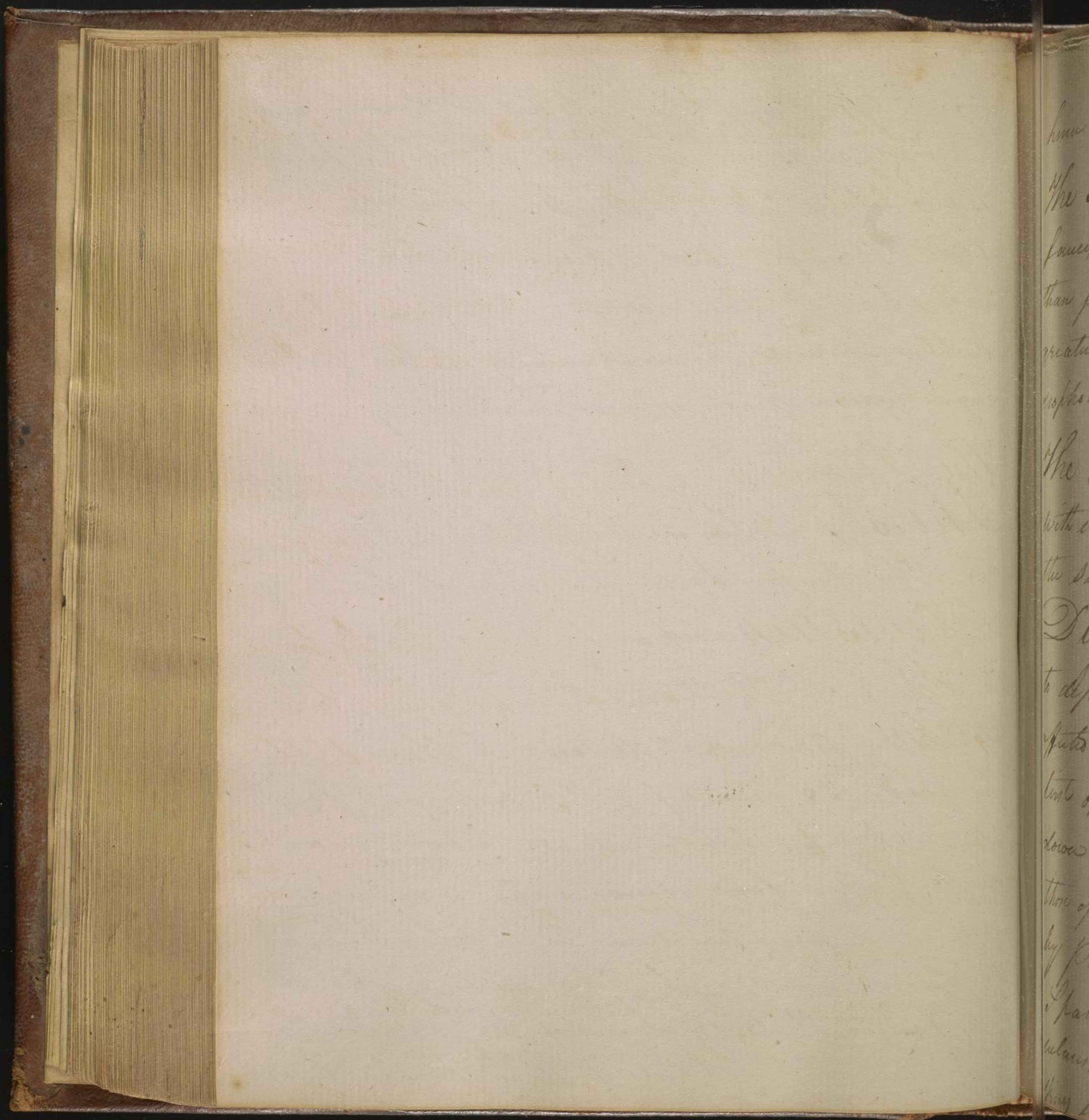


which the stomach must be to cause appetite; opium will elevate it above this point, and grief, depress it below it. Joy raises it to the Hungry point, hence we eat more in company, than alone.

Fasting increases the excitability of the system, hence sudden death is often induced by eating too much after it; it also causes intoxication.

Thirst. Where is its seat? In the fauces. This I infer from the juice of fruits satisfying it. It is induced by Heat, Pain, and nauseating Medicines, as Digitalis, &c.

Teeth. These are designed to masticate the food: 45 grains of well masticated food were introduced in tube, and the same quantity of the same food unmasticated was put into another tube, they were both swallowed at the same time; when they were ejected it was found that 18 grains of the masticated food was lost, and but 4 of the unmasticated,



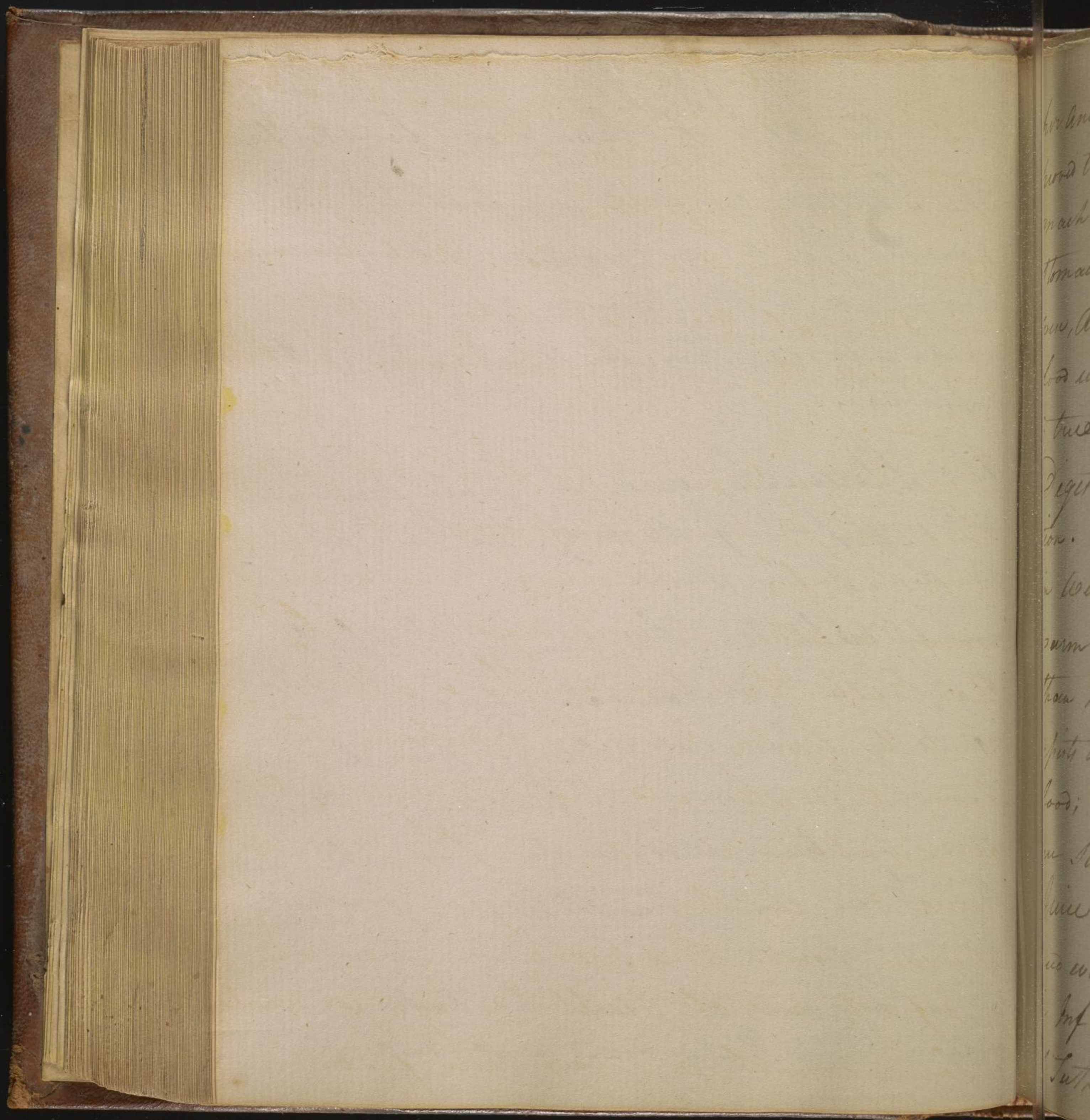
know the utility of chewing our food well.

The Tongue conducts the food into the fauces. Solids are more easily swallowed than fluids, as the Pharynx can have a greater action on them, this is evident in Hydrophobia.

The Stomach, from its great sympathy with every part of the body, has been called the seat of the Soul.

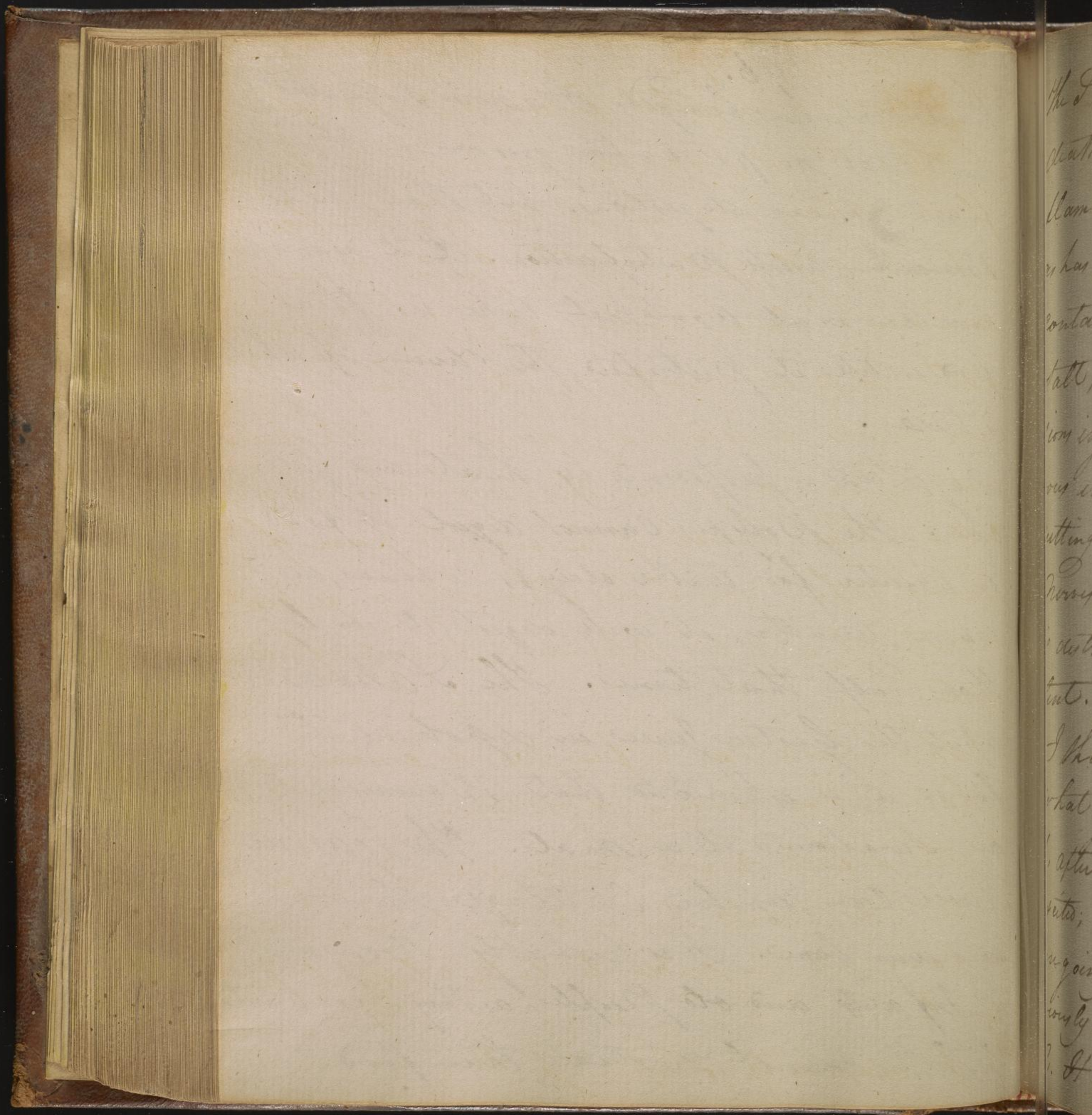
Digestion has been supposed by some to depend on Mechanical, by others, to be assisted by Chemical action. Those of the first opinion thought the food was rubbed down by trituration in the Stomach, while those of the latter, thought it was performed by putrefaction.

Spallanzani, to refute the latter opinion, declared, that he swallowed grapes with the skins unbroken, and that they were voisted.



96.
per Anum, unchanged. It is now sufficiently
proved that no putrefaction goes on in the sto-
mach during digestion, but that the
stomach resists putrefaction. If it was other-
wise, Animals would not take in their
food until it putrefied, the cause of which
is true.

Digestion is performed by heat and Solu-
tion. The Polypus cannot digest its food
in winter for twelve days, whereas, in
warm weather, it will digest it in less
than half that time. The Saliva
aparts the Gastric Juice in dissolving the
food; it is estimated that 12 ounces of it
are swallowed at a meal. The Gastric
Juice can dissolve Cartilage, Tendons,
and even bone. It is probably strongest
in Infants and old people, as they, for want
of Teeth, cannot masticate their food.



The Stomach is often found dissolved after death; this is probably occasioned by Inflammation, and not by the Gastric liquor as has been supposed. The Gastric juice contains a large portion of Phosphoric salt, and it curdles milk. The passions injure digestion by diverting the nervous influence from the stomach. By cutting that branch of the eighth pair of Nerves which goes to the stomach, digestion is destroyed and the Aliment rendered ferment.

I shall now say a few words concerning what goes on during digestion.

1. after a full meal there is generally a fever excited; this should lead us to direct those who are going into the colds to take Aliment previously.

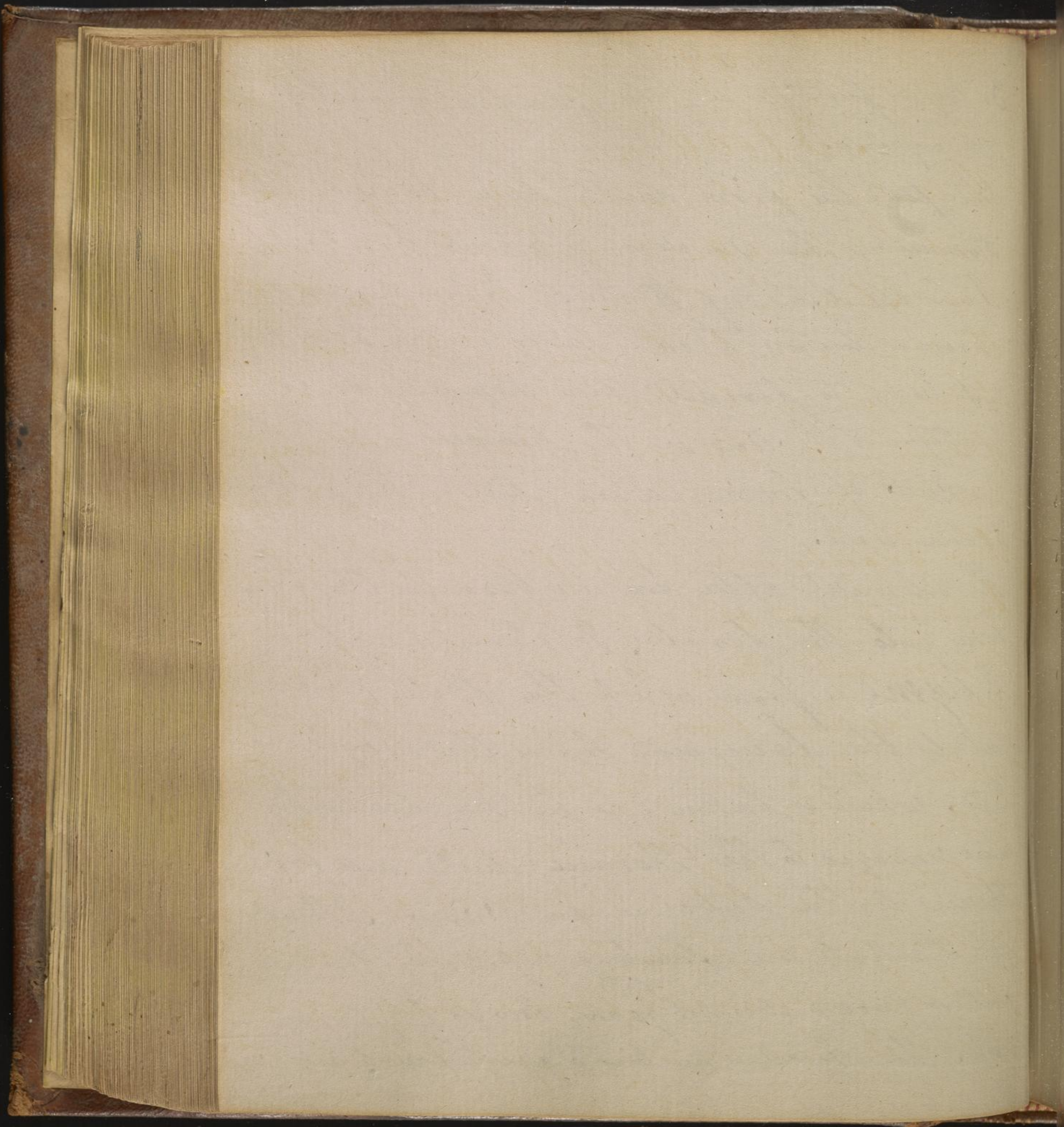
2. It disposes to Sleepiness.

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3. By a full meal, the Mental faculties are injured.

The food lies from one to seven hours in the stomach; the medium is about five hours. I always direct my patients, labouring under chronic diseases, to eat six or eight times in 24 hours, to prevent their stomachs being empty. The acid in the stomach is not the product of fermentation, but is the phosphoric acid.

The Aliment after passing through the Pylorus into the Small Intestines is called Chyme, from which the Bile precipitates the feces, and leaves the Chyle behind, which is taken up by the Lacteals, and conveyed to the Thoracic duct, and from thence to the Subclavian Vein. I think the Lacteals are secreting vessels. If some secreting process does not go on, how do Glycerins nourish. The Intestines are long to give surface to as many Lacteals as possible, & to prevent over excretion of secretion.

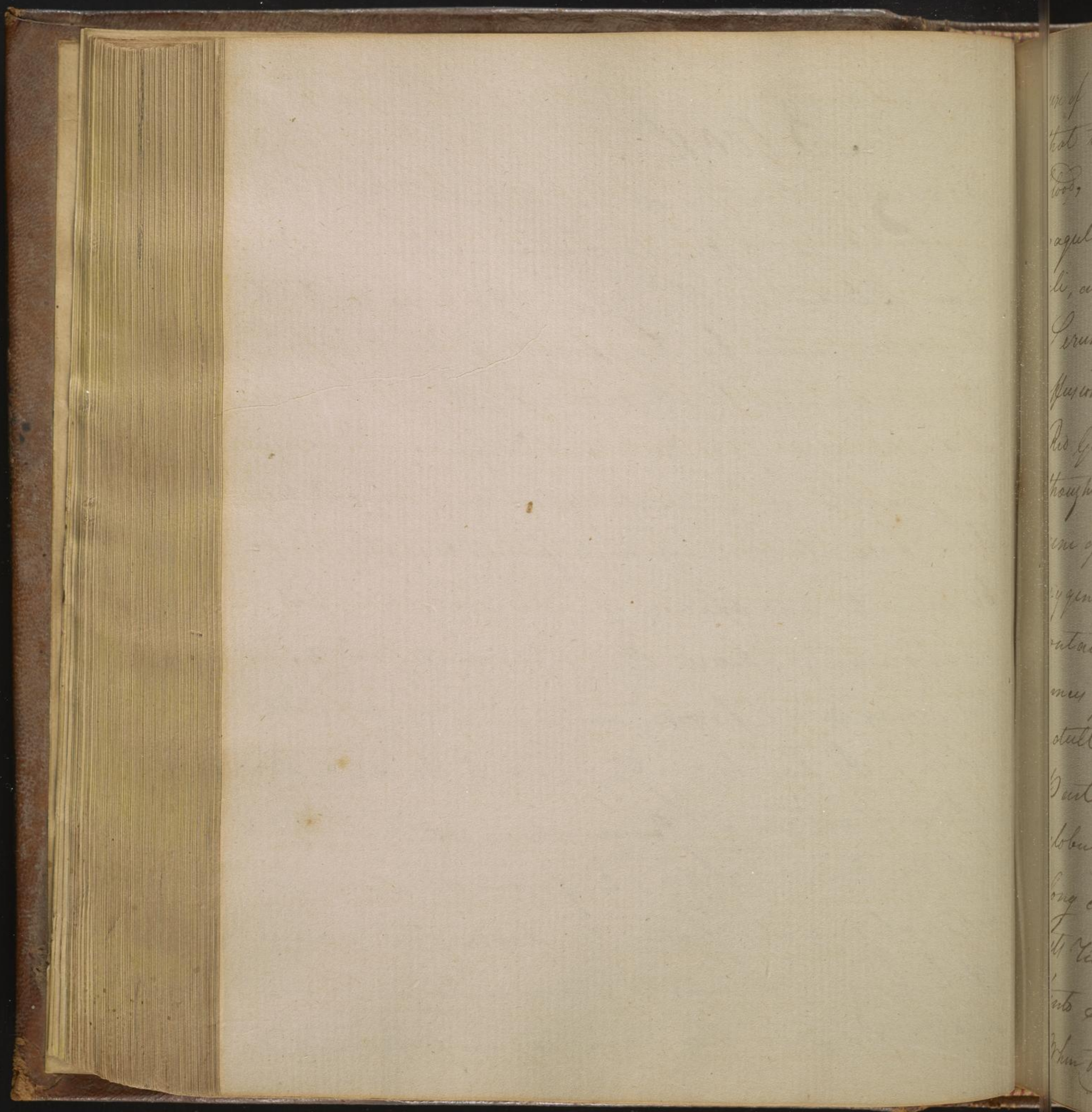


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Blood.

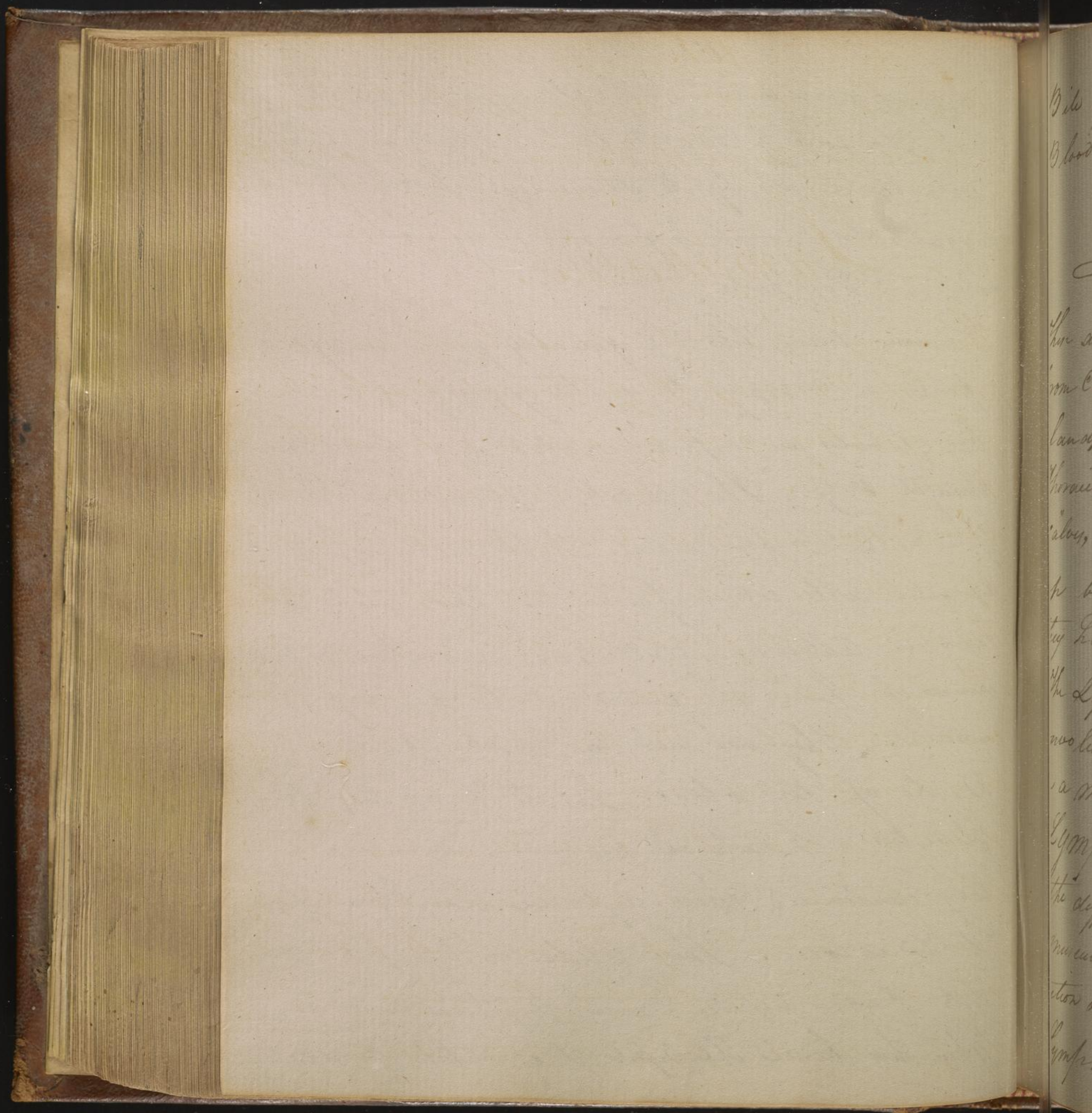
The watery Habitat or Solatile part of blood is different in different diseases. I knew a German Bladder in the year 1794 who counted the yellow fever by the smell of the Blood.

Blood is common to all animals. It is the cause of disease as in Echyrosis and Polypus. It coagulates soonest in a small vessel and in cold weather. Solambs will keep it from coagulating six minutes and opium much longer. In Malignant fever the blood is dissolved; this may arise from too much or too little action. It has been supposed to be in a state of putrefaction in some diseases, that this is not the case, I infer, 1. from its appearing in Malignant fever, 2. from the same effect being discoverable from exposure to great heat. 3. From the same effect following the



use of Laurel water. Dr. Langrish Reports that they entirely removed the Buffy coat from Blood, this it did by its stimulus. From the coagulable lymph is formed pus, Schirri, Calculi, and Polypi.

Serum turns blue vegetably green, and forms effusions in Dropsy. It is the gravy of animals. Red Globules are inflammable and have been thought oily. This red colour arises from the Oxygen of Atmospheric Air. Nitre, as it possesses Oxygen, will colour flesh red. These Globules contain Albumen, Sal Soda and Iron: two ounces of Iron are found in the blood of an adult. They are not the most essential part of the blood. Insults have no red globules. A diet of potatoes and water long continued will deprive the blood of its red colour. These Globules, by getting into Arterial Vessels, cause Inflammation. When they burst the vessel, it constitutes Hemorrhage.



Bile does not alter the nature of the blood.
 Blood is the source of Nutrition and Irritability.

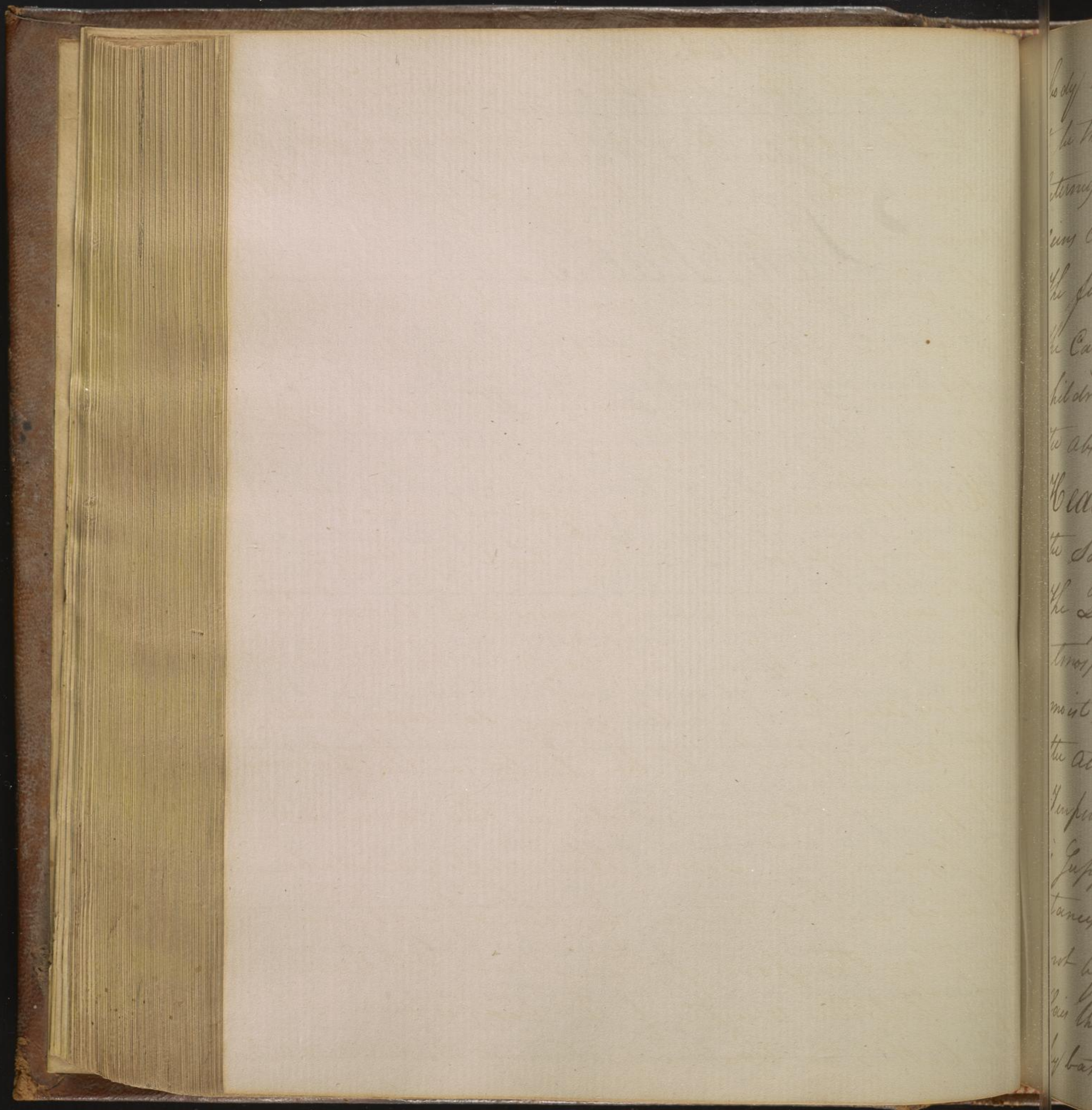
Lymphatics.

There are a system of small vessels arising from Cavities, and passing through Conglobate glands. They do not all appear to pass to the Thoracic duct. They have a Muscular Coat, Valves, Nerves, Arteries, Veins, mouths taking up blood, &c. and it has been supposed, that they have a retrograde motion.

The Lymphatic glands are nothing more than convoluted vessels or the lymphatics, wrapped up in a membranous covering.

Lymph is a secretion from the Arteries into the different Cavities, and is taken up by the muscular contraction of the absorbents, from its action on them are specific Stimuli.

Lymphatics are found in every part of the

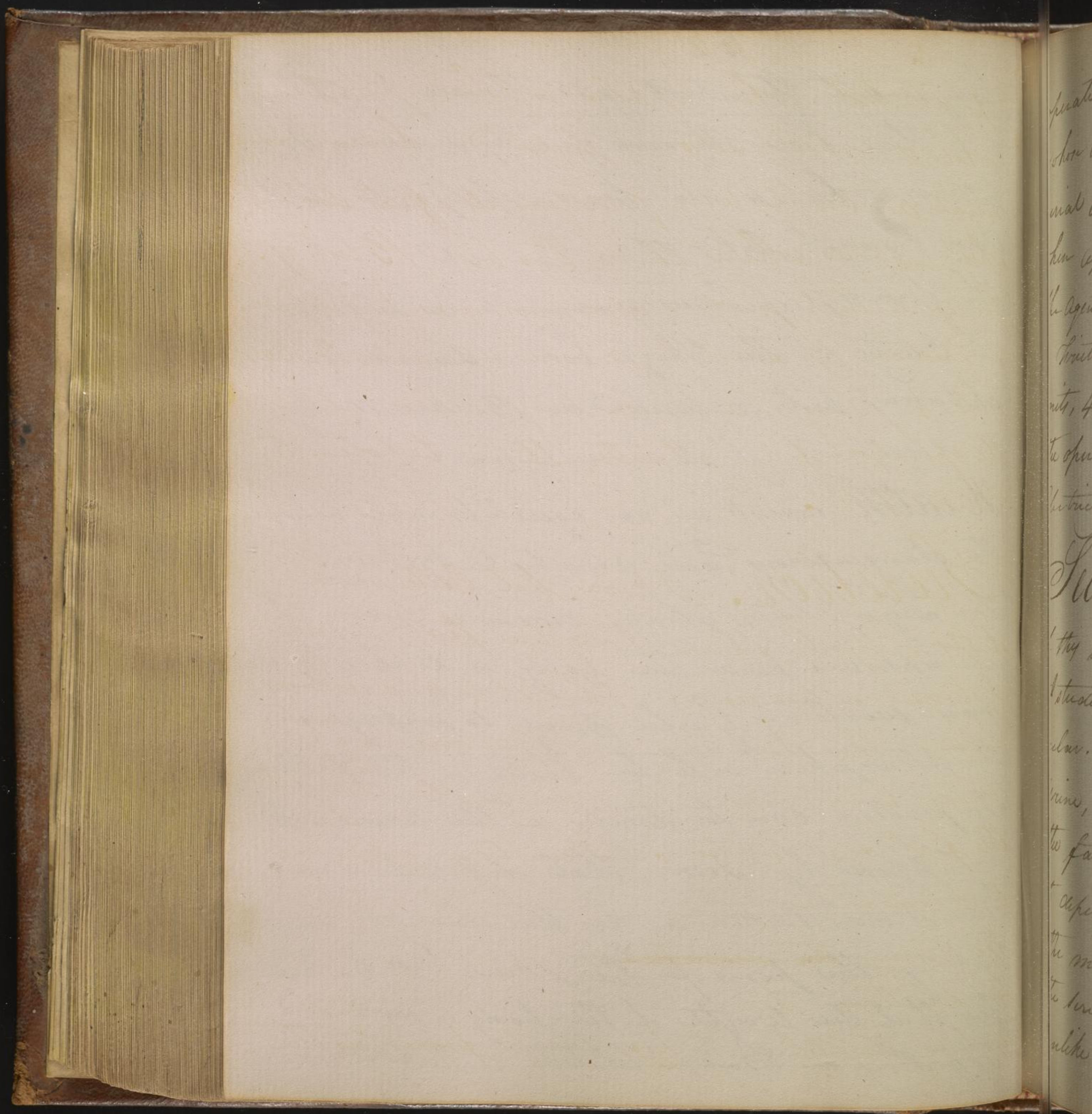


body except the head, and they are supposed to be there, from the cure of Hydrocephalus Internus, which is an effusion of lymph, that veins cannot take up.

The firmness of bones is owing to the absorbents. The Cavity of the Thigh Bone is small in children, but is increased in the adult by the absorption of its interior part.

Health consists in an equilibrium between the Sanguiferous and absorbent systems.

The Lymphatics absorb moisture from the atmosphere, hence the body is heaviest in moist weather. Garlic may so impregnate the atmosphere as to be tasted in the Saliva. Turpentine can be smelt in the urine. It is supposed by some, that different substances are taken in by the Lungs, and not by the pores of the skin. Dr. Currie says that the weight of the body is increased by bathing in warm water. Medicines will



operate best when applied to those parts
where abortive action is incurred, hence mer-
curial ointment will produce its effects sooner
when applied where there has been Blistering.

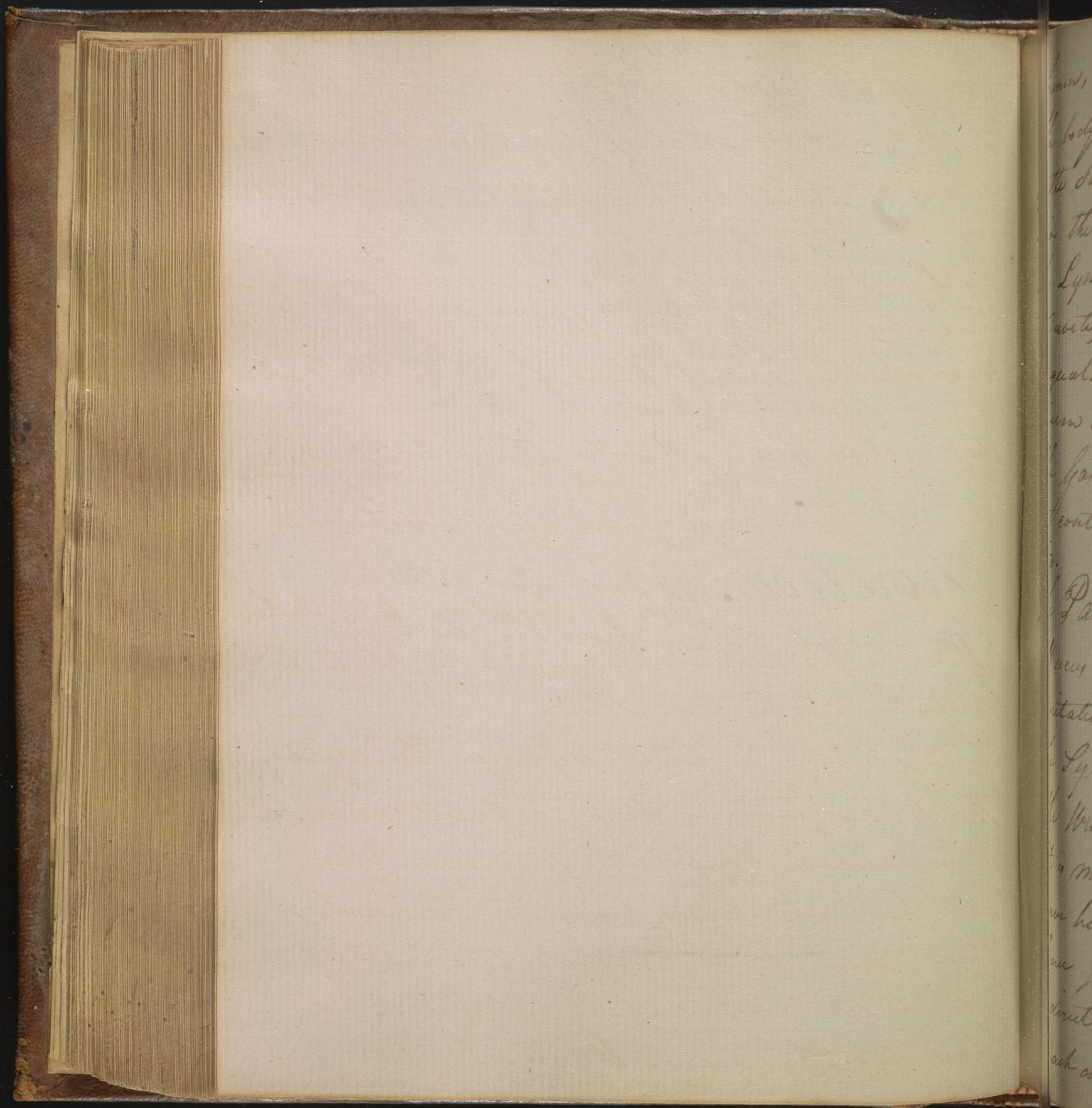
The Agents that produce absorption are, 1, pressure.
2, friction, this should be made upwards. 3, Vo-
mits, 4, Purgers, a person weighs more after
the operation of a cathartic than before. 5,
Electricity, &c.

Secretion. I know but little more
of this subject, than I did the first year
I studied Medicine. The Glands are vas-
cular. The Secretions are aqueous, as the
urine, gelatinous, as the mucus, &c. I reject
the fat as a secretion. Secretion appears
to depend on a.

The more ~~the secretion~~

the secretion, the

unlike the fluid it was secreted from, as the



Semen, the same may be said of the urine.
The body has the power of producing matter
of the same kind that is introduced into it,
as in the Small pox.

The Lymph is sent from excurrent arteries in-
to Cavity, to keep them soft, it is generally
coagulable, except that found in the cra-
nium.

The Gastric Juice is another secreted fluid,
it contains a large quantity of Phosphoric
acid.

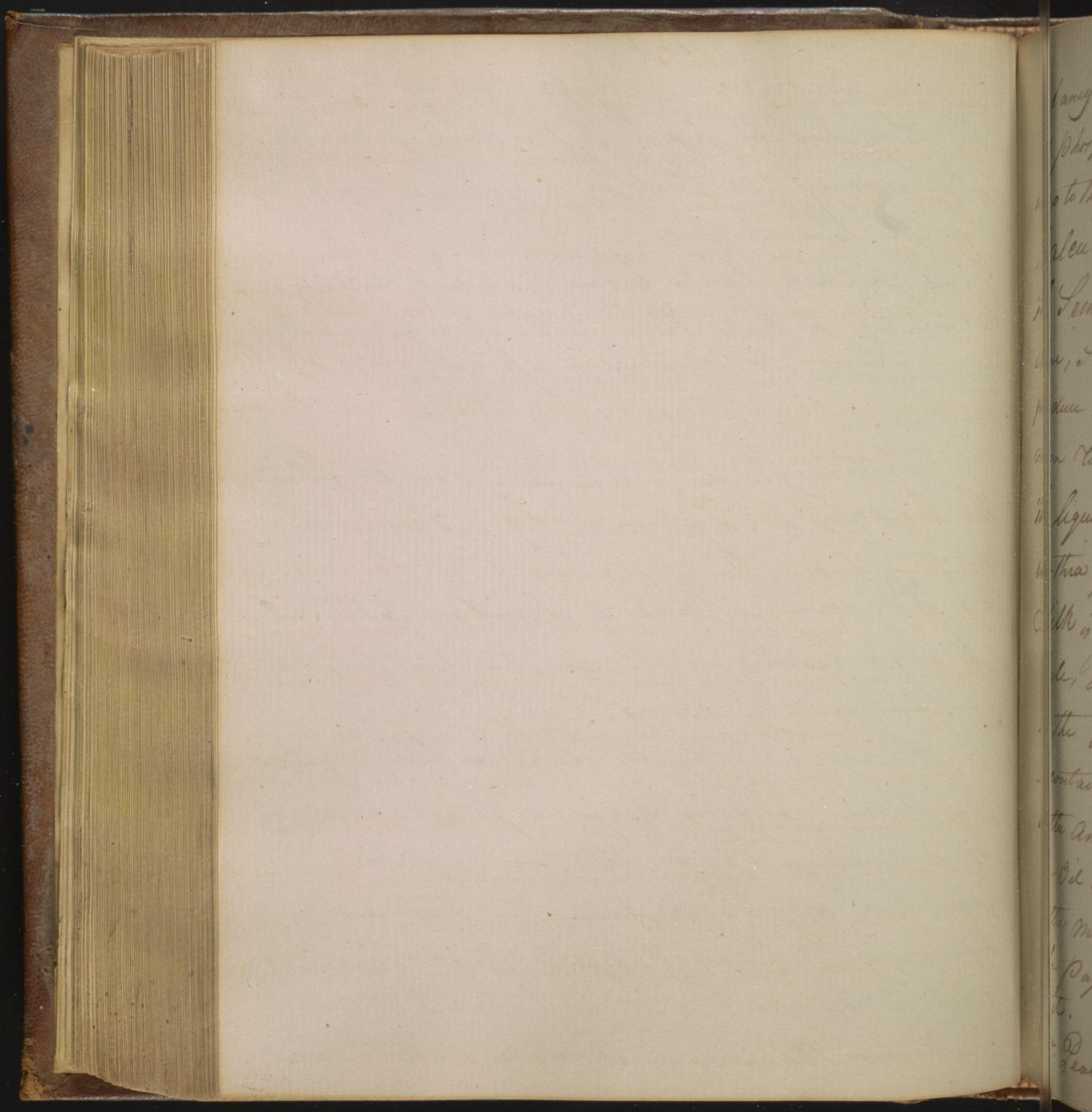
The Pancreatic Juice is similar to the Saliva.

Mucus is formed in all cavities subject to
irritation, as the Nose, &c.

The Synovia is secreted during the night.

The Urine contains several different principles.

It is muddy, & by low, &c. Urinary calculi
have been discharged from the Stomach,
hence some have supposed that there is
a direct communication between the Sto-
mach and Bladder. Urine is milder in



infancy than in adult age, and contains
 less phosphate of lime, from its being necessary
 to go to the formation of bones.

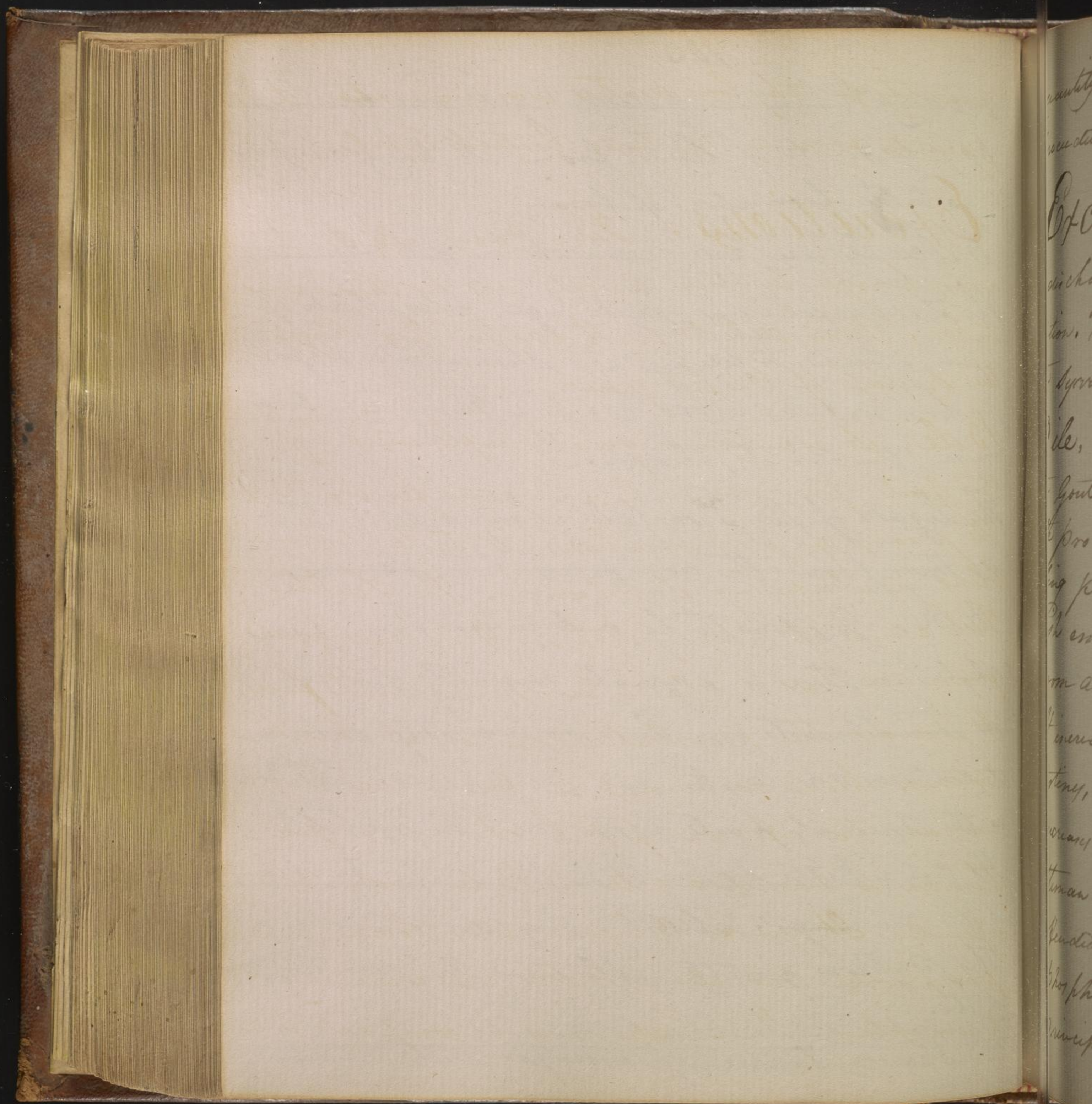
Calculus are most common in cold climates.
 The Semen contains mucilage, phosphate of
 lime, Soda, & water. Its stimulating effects
 produce impregnation. Excessive Venery and Ona-
 nim render it thinner.

The liquor of the Prostate gland defends the
 urethra from the acrimony of the Semen.

Milk is supposed to be a secretion from fresh
 chyle, as there is a great quantity of it found
 in the Breast an hour or two after eating.
 It contains Oil, water and mucilage. The last
 is the Animal part & the Oil, the Vegetable.
 The Oil is kept suspended in the water by means
 of the mucilage. Milk is very nutritious.

The Passions greatly influence the secretion
 of it.

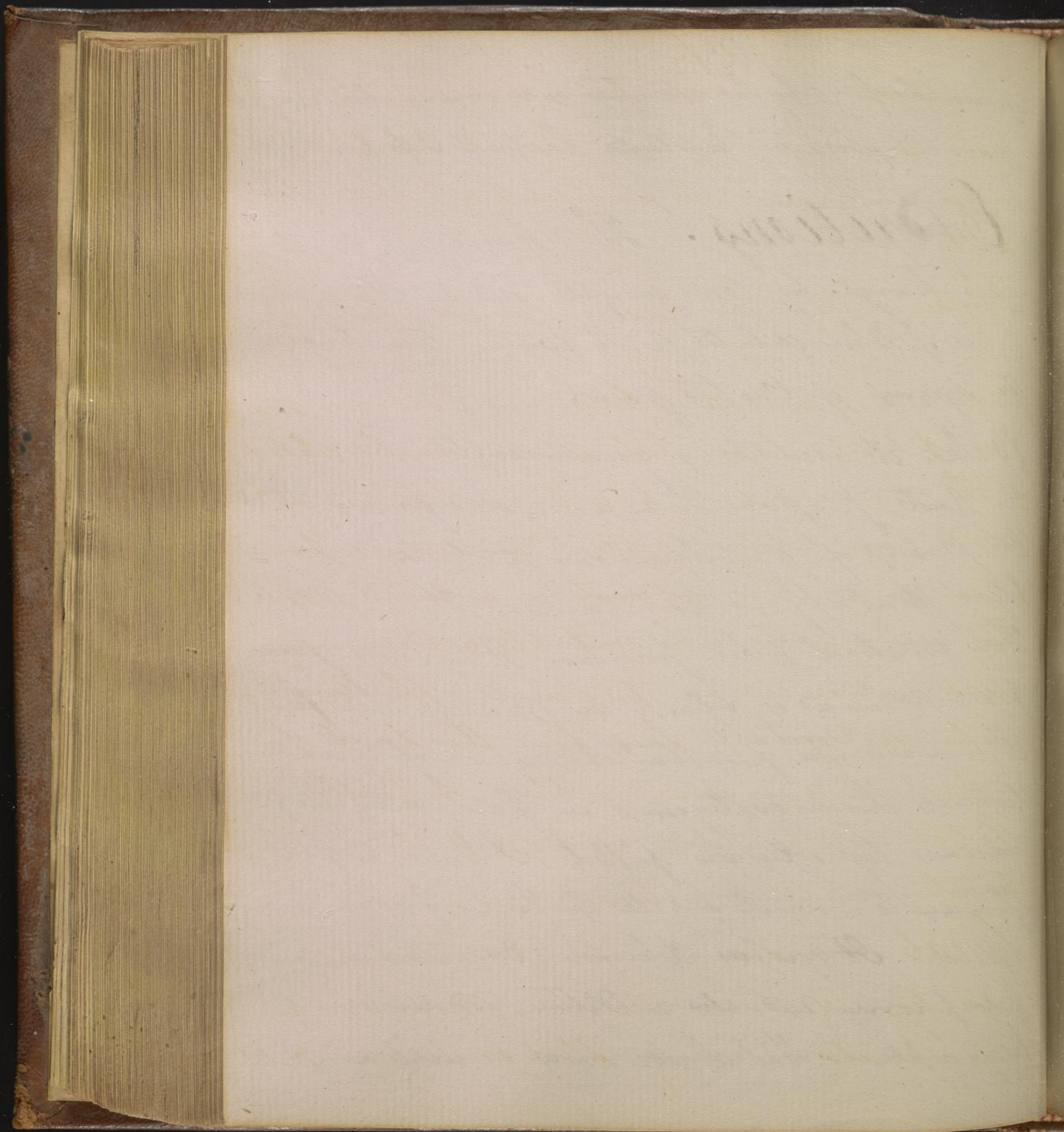
Dr. Pearson tapped a Person for Acute, and on



quantity of chylous water was evacuated; it proceeded from a ruptured lacteal vessel.

Excretions. The Hæces excite to a discharge by their weight and by their irritation. When diluted with water, they tinge the Symp of Violets green.

Bile, its excretion is greatly influenced by the Gout, Papours, by Quins and fevers, it is the product of putrefaction, its taste resembling putrefying substances. The Scuttle Fish emits it when pursued. It becomes green from acid, and is black in Malignant fevers. It increases the peristaltic motion of the Intestines, hence costiveness in Jaundice. Anger increases the effusion of Bile, I knew a Gentleman to vomit a gill of Bile from being offended. It yields Alumen, Oil, Soda, and phosphoric Acid, also a Bitter, and colouring principle. The Liver may be compared to a

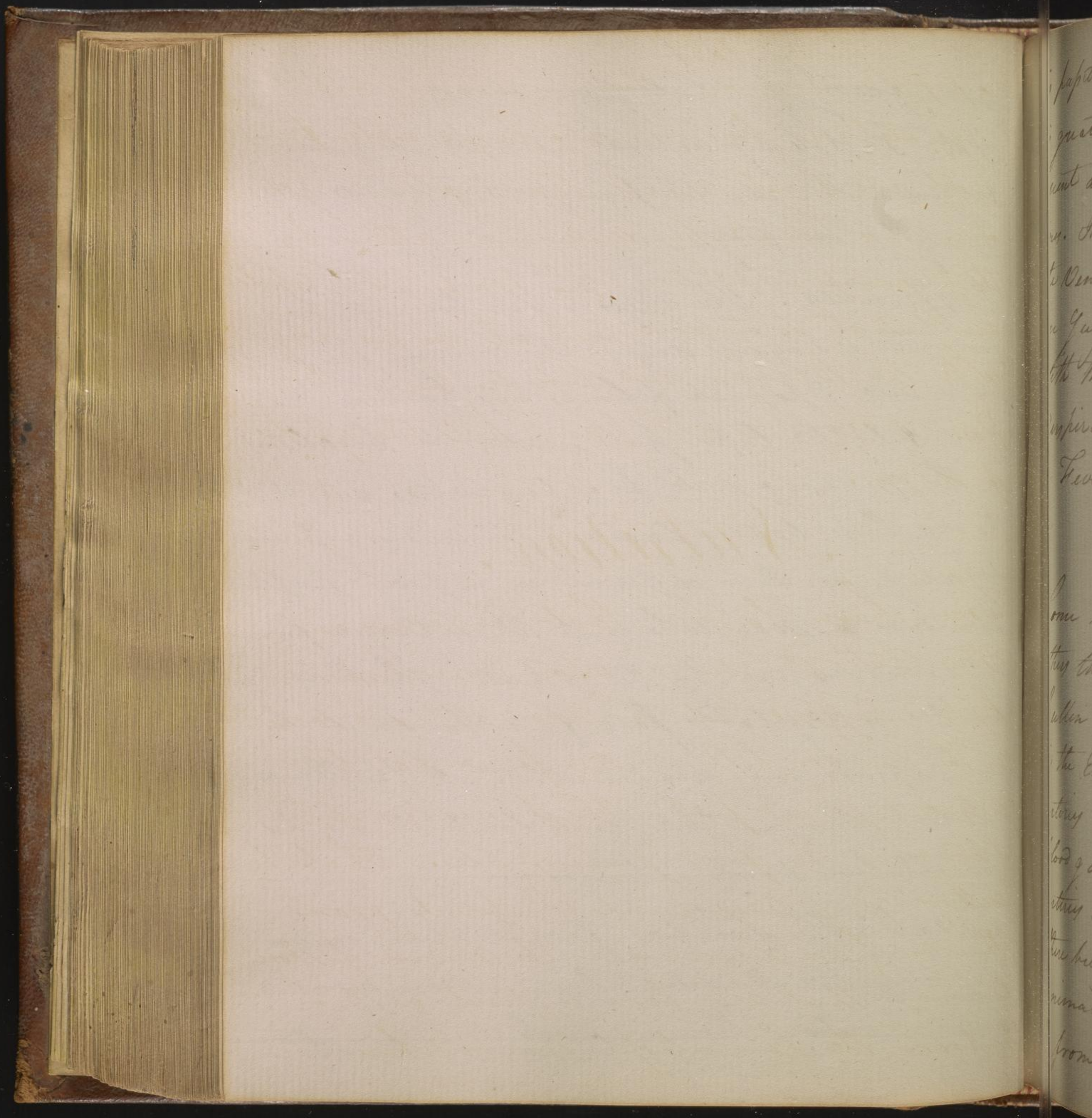


Manufacture of Sal Ammoniac.

Feat. Its Solidity depends upon its absorbing oxygen. It causes the plumpness and adds to the beauty of the body.

Perspiration. This is not a secretion, but passes from the exhalant Artery. It contains the phosphoric acid, phosphate of lime, and Carbonic acid gas. A lighted taper put under the bed clothes in the morning will be extinguished; and it renders lime water turbid. This acid is a source of foul fever. It is different in different people. There was a man who could tell a Virgin from a married woman, by the smell. The Bramins who live on Vegetable food find the smell of an European very disagreeable. A Gentleman who took Surpentine, could smell it in his sweat five weeks afterwards.

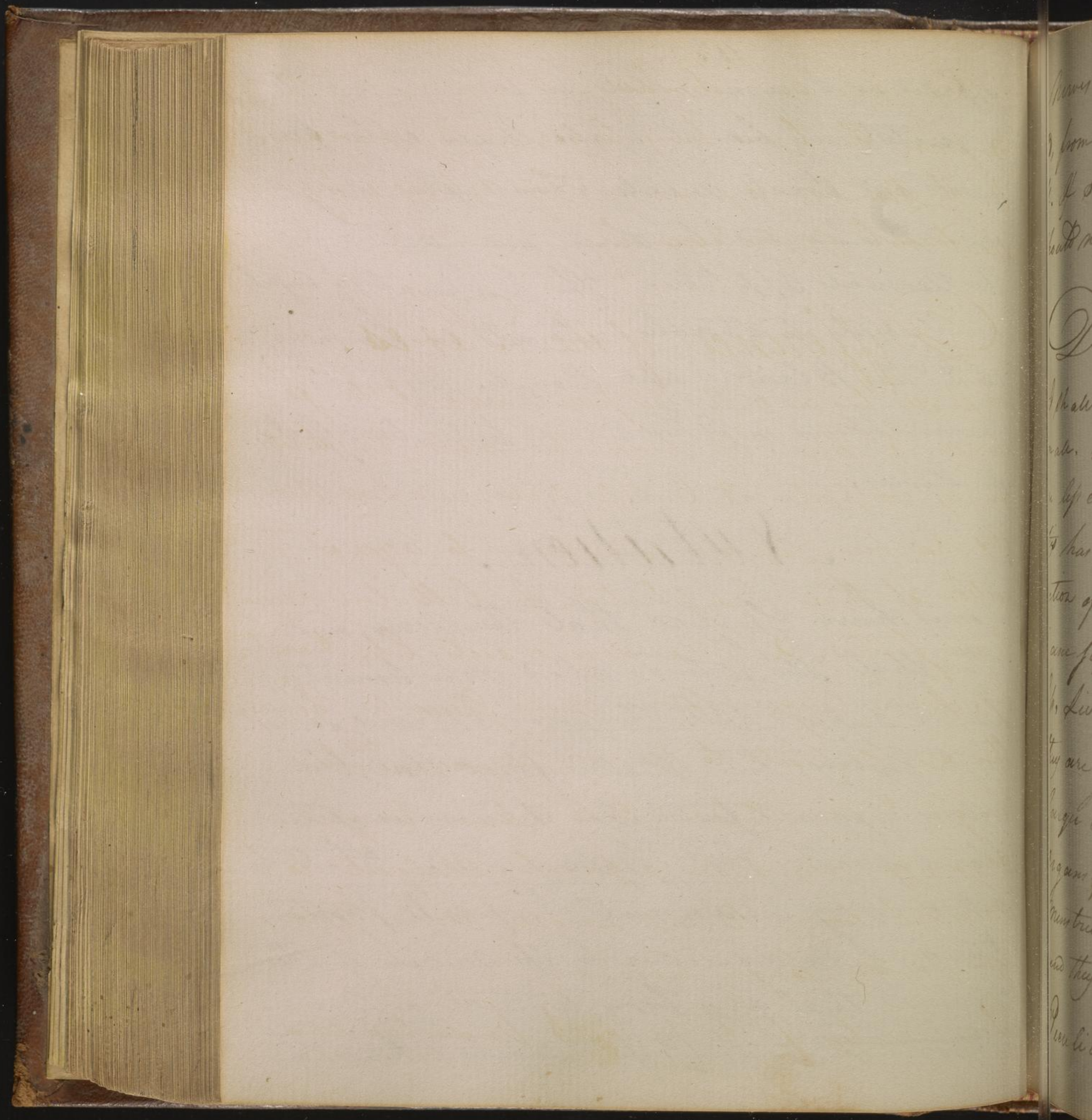
Sweat is the same as perspiration, and is passed by the same Arteries. More is passed by perspiration than by stool or urine. More



is *larger* in Summer than in winter, and it is *greater* in *life*. It is also *larger* after frequent and small meals, than after large ones. It is increased by drink, and is altered by the Venereal appetite. The perspiratory vessels are subject to stimuli, and act in Harmony with the Bladder and Bowels. Obstructed perspiration is not the Cause, but the effect, of Fevers.

Nutrition.

Some have supposed that the Nerves, and others that the Arteries, afford nourishment. Cullen supposed that the Nerves appeared sooner in the Embryo, but Haller found that the Arteries appeared first. The Stimulus of the blood gave the first pulse of life. That the Arteries carry nourishment I infer, 1, from there being no deficiency in the muscles of those animals that are born without a Brain. 2, from the largeness of muscles where the



Nerves are very small.

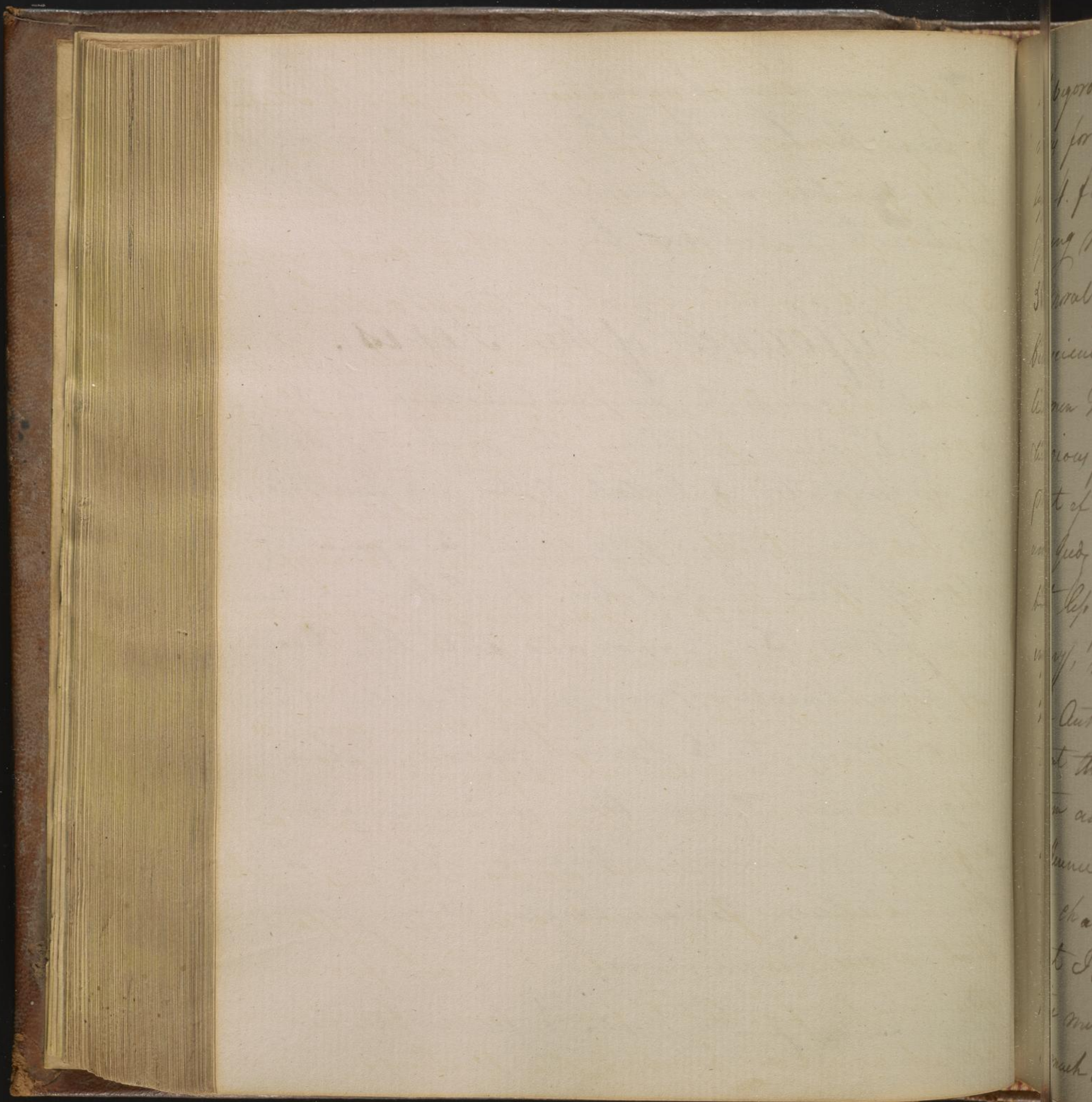
3, from the bones being tinged with madder.

4. If Section is performed by arteries, why should not Nutrition be.

Difference of the Sexes.

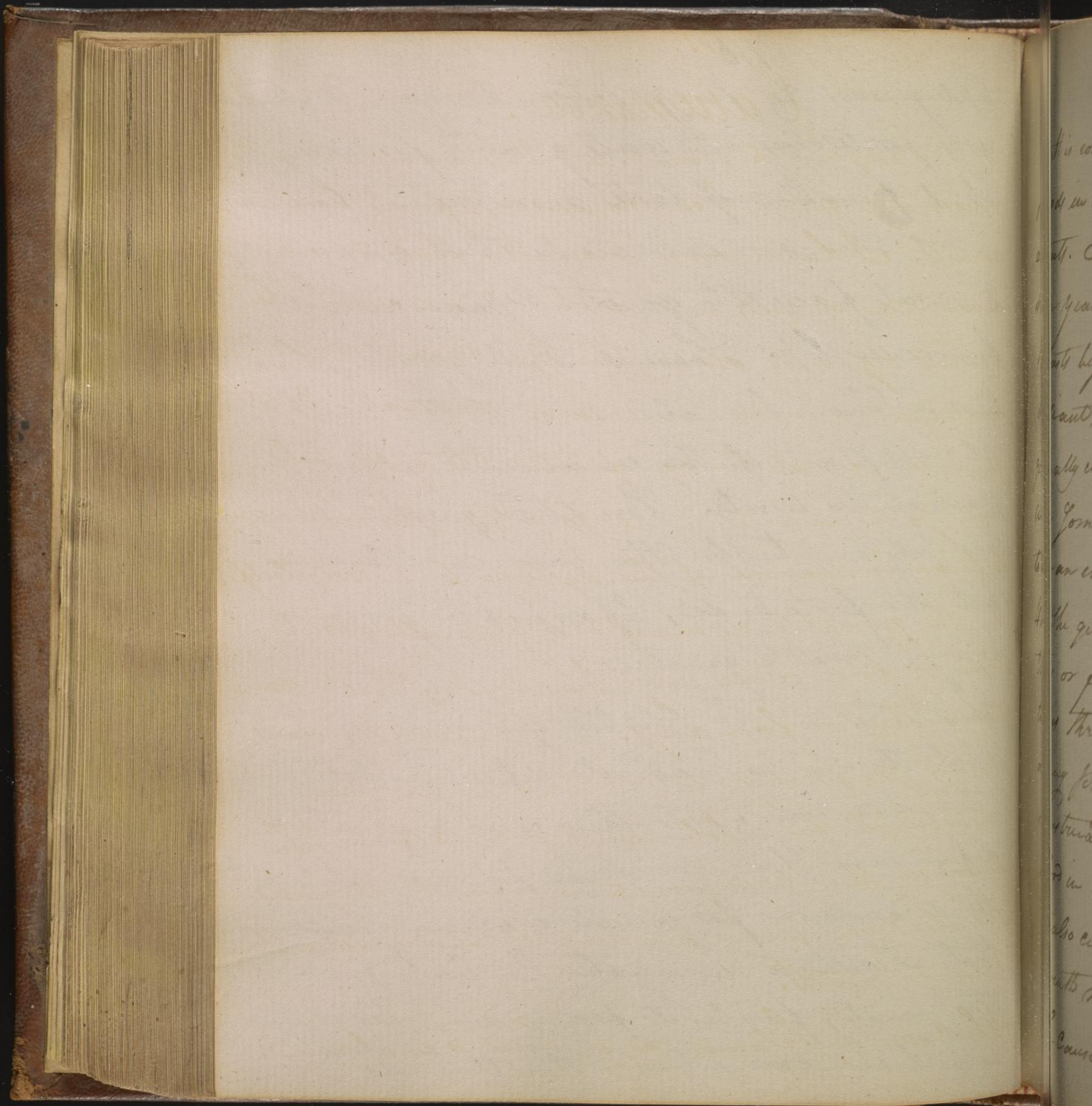
I shall begin with the peculiarities of the female. 1. She is less than the male. 2, Solids are less compact. 3, Cuticle softer and smoother, this has been supposed to be owing to a greater action of their lymphatics. 4, Cellular membrane softer. 5. Hands and feet less, Heart less, Liver larger, Nerves more sensible, hence they are subject to nervous diseases, Pelvis larger & they retain their urine longer. Organs of generation different, Subject to Menstruation, Breasts larger, Voice softer, and they are longer lived.

Peculiarities of the Mind. 1. Understanding



less vigorous, 2. Imagination stronger. 3. Memory for words and words greater, for ideas less. 4. Faculties of taste more acute, hence young men are improved by their company. 5. Moral faculties greater & more active. Conscience less. Sense of Duty greater, hence women have been observed to be the most religious part of the community, in every part of the world. Perception quicker, Reason and judgement less. They have more Courage, but less fortitude; less disposed to forgive an injury, Modesty greater.

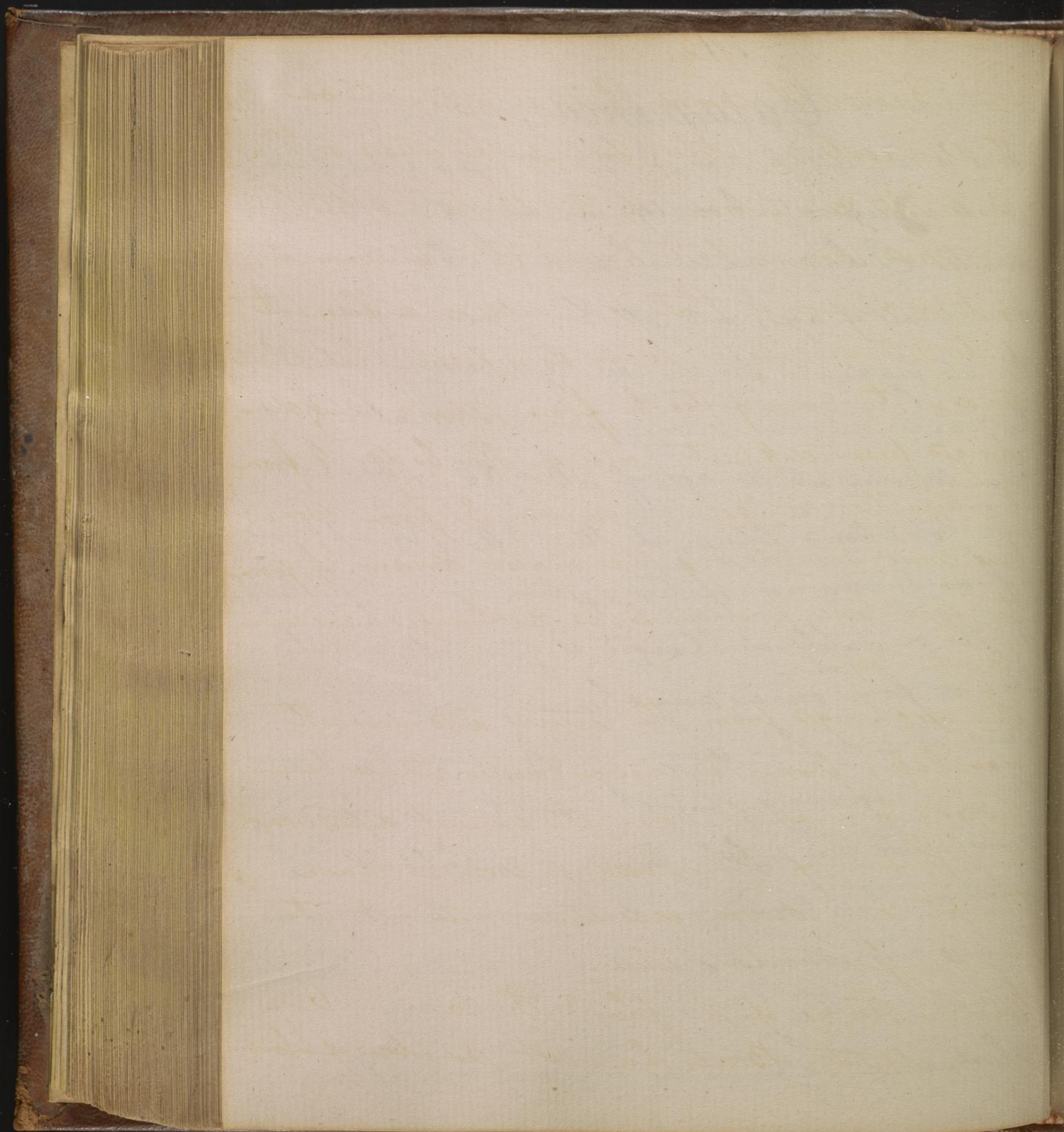
The Author of the Rights of Women contends that there is no natural difference between them and men, but there exists a great a difference in their minds, as bodies. Let not the champion for female excellence suppose that I wish to derogate the least from their merit, far be it from me, for I prize, as much as he can possibly, their Virtues.



Catamenia.

1. It is confined to women. 2. It occurs at different periods in different Countries, and in different temperaments. I have known it occur in three cases at seven years of age, and at the same time, the Breasts began to swell, the Eyes become more brilliant, and the voice more musical. 3. It generally ceases at the age of 40 or 50 years, but will sometimes return at 70 or 80, this appears to be an endeavour of the system to restore itself. 4. The quantity discharged is generally about three or four ounces, every lunar month, it continues three or four days. 5. It generally ceases during pregnancy, but I have known them menstruate the whole time of gestation. The Blood in these cases was effused from the Vagina. It also ceases during suckling & returns after the eleventh month.

The Cause of Catamenia is hard to explain:

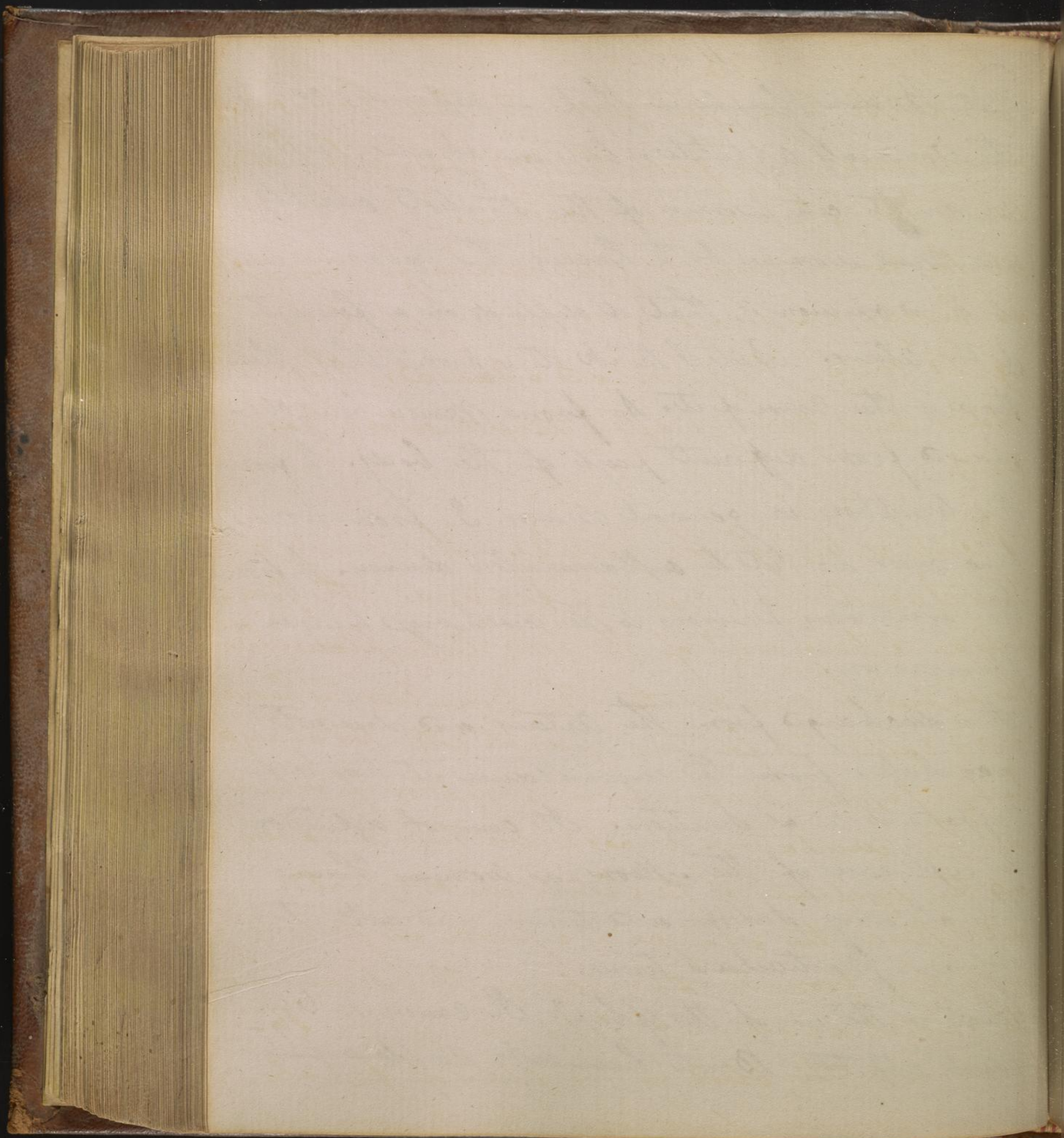


Dr. Brown supposed that it depended on the Venereal appetite; but in objection to this, we might cite women of the strictest chastity, and mad women, both having the Catamenia.

A second opinion is, that it depends on a ferment of the uterus. But I think it is proved that plethora is the cause of it, 1, from Menses being discharged from different parts of the body. 2, from its interruption in general diseases. 3, from women being most subject to inflammatory diseases. 4, from the symptoms previous to the discharge being inflammatory.

It is discharged from the Arteries and does not coagulate, from this circumstance it has been supposed to be a secretion. It cannot depend on the influence of the Moon, as women have them at every season and time, and not at any one particular time.

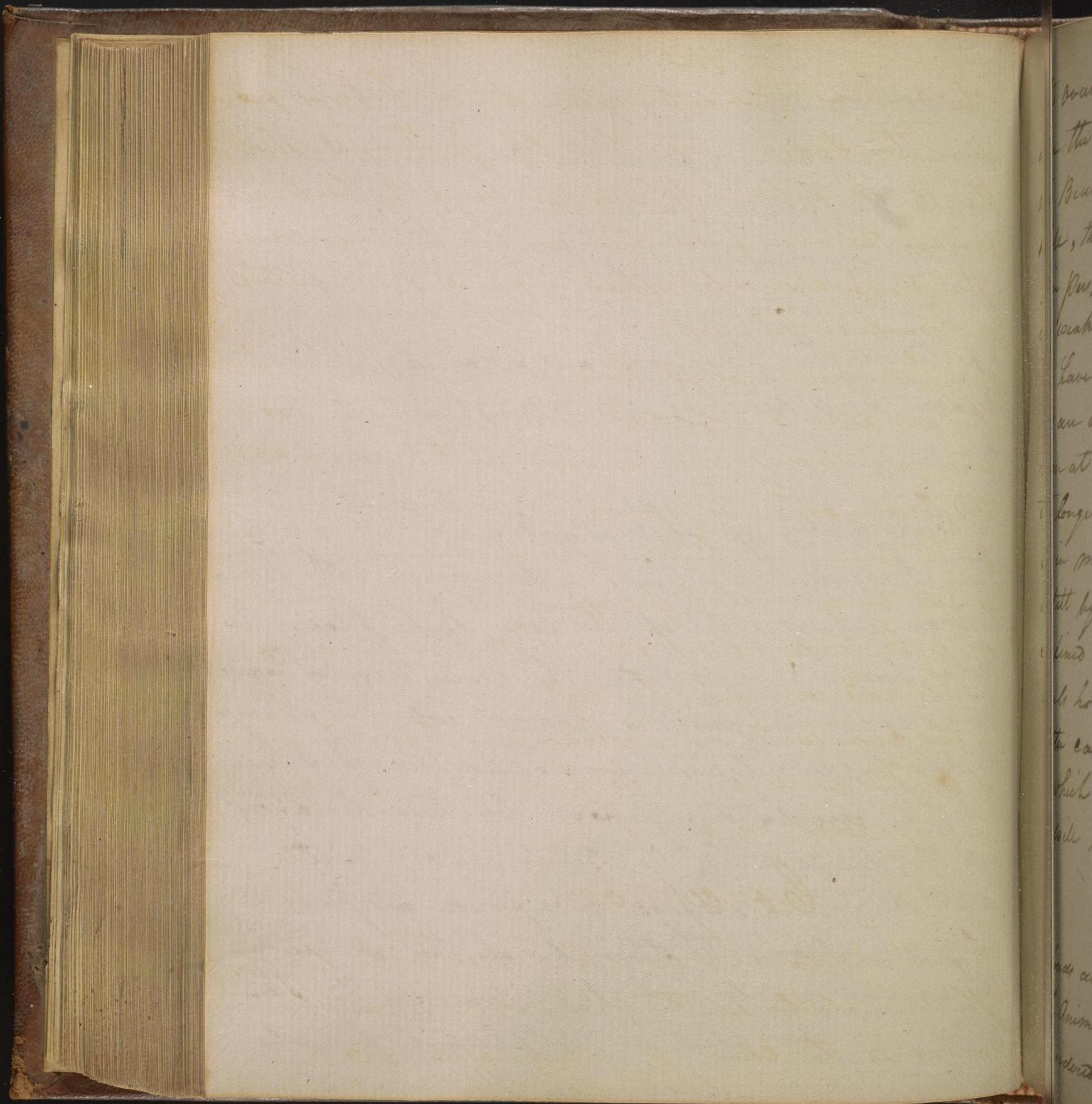
What is the use of this flux? It causes the Venereal appetite. Brutes have not this flow of blood,



but, at the time they procreate, they have a
mucus discharge from the Vagina, which an-
swers to the Catamenia in women.

At the commencement of the discharge, women
are highly libidinous, and have been to be
affected with Hysteria and Mania. They
seldom have children after Menstruation has
ceased.

Peculiarities of the Male. For many of
these I must refer you to Anatomy. At pu-
berty an enlargement of the bones takes place; the
Thorax becomes more distended; the Voice becomes hoarse
and is called the fourteen years old cote; this change
has been supposed to arise from absorption of Semen
into the circulation. Eunuchs lose these sensations,
and the Lymphatics of the Testes are obliterated:
but I think this change in a person at puberty
may arise from the stimulus of the Semen in
the animal vesicles. A glass of wine in the Sto-
mach, and the blood in the uterus of females,
impart similar sensations. The removal of -

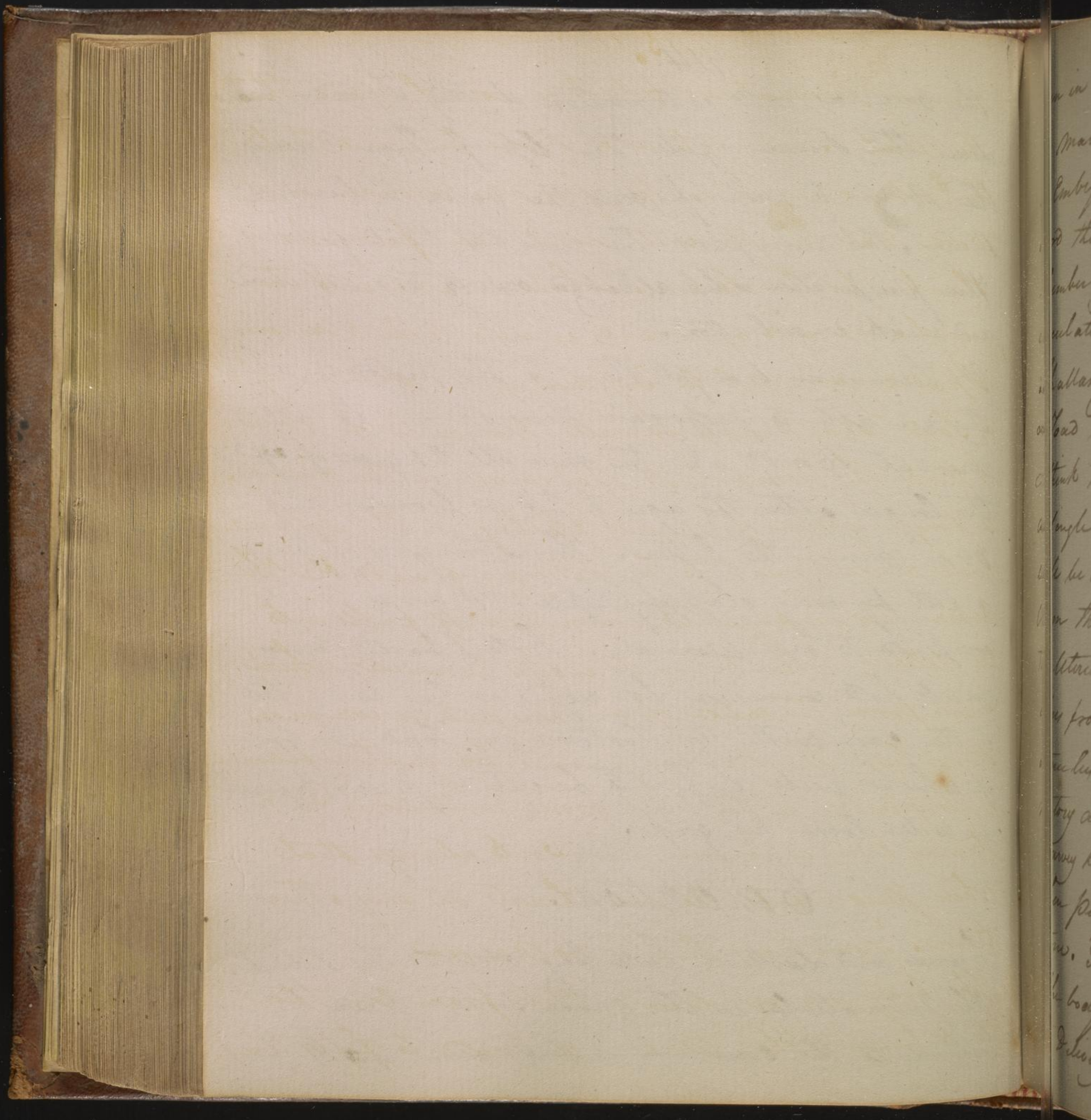


the ovaria, and extirpation of the Testicles produce the same effects. The loss of them causes the Beard to drop off, and the voice to become shrill, this arises from the debility that follows. Their perspiration is less alkalinized, owing to a defective and weak circulation.

We have now brought them to the period in which they are able to propagate their species, the women at 16 or 17, and the men at 21 years of age; the longer after this age to 24 in women, and 30 in men, the better. The stimulus of venery is felt by every class of people; Man is vainly confined to one woman. Both blooded animals hold connexion for eight or ten hours, this is the case with the Tortoise and Toad, the latter of which will suffer to be cut in pieces, before he will loose his grip.

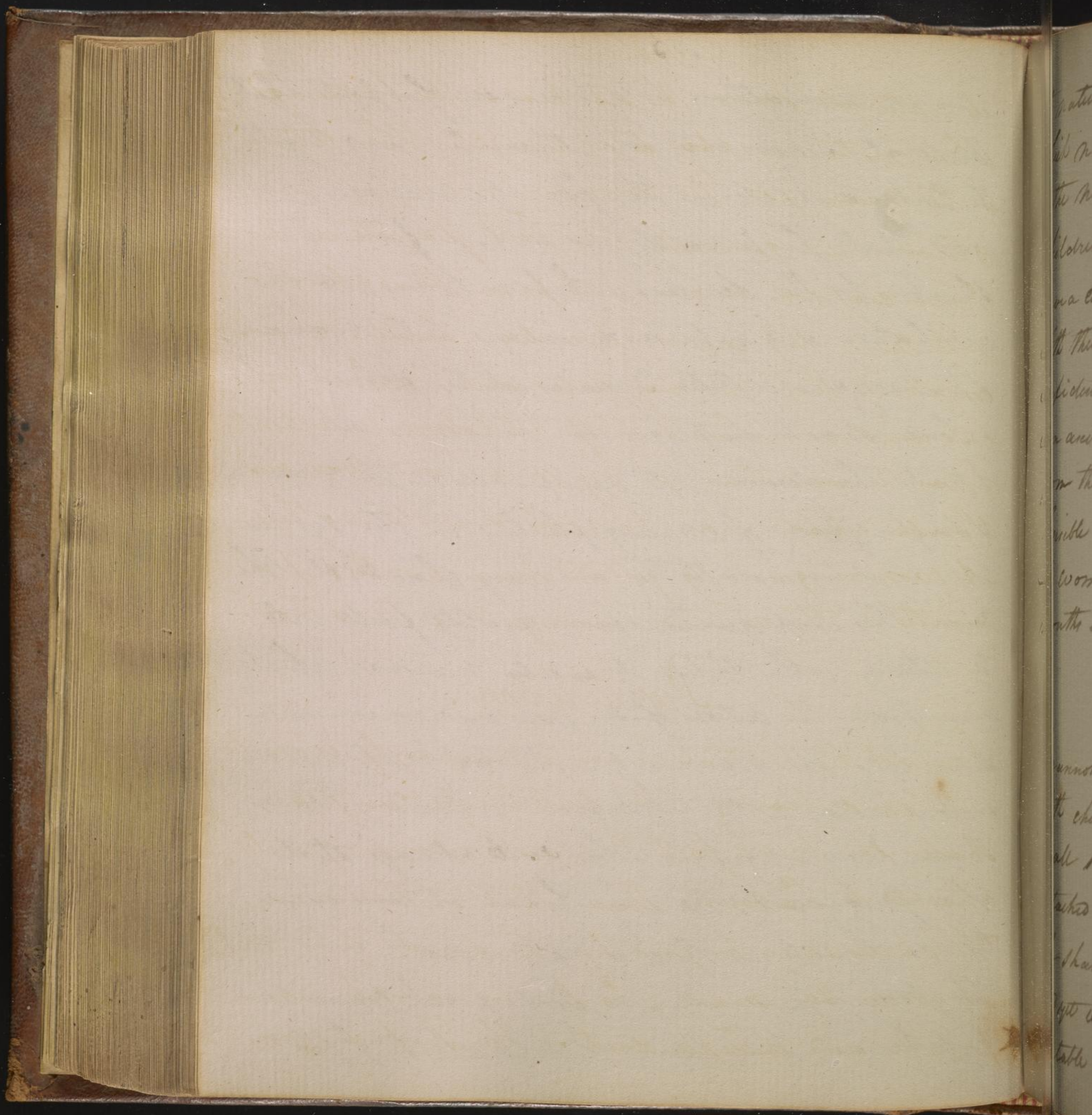
Conception.

Clouds and darkness have long obscured this subject. The Animalcules in the male semen have been considered the cause of impregnation, and to be



men in miniature; but it is now supposed that the male semen acts as a stimulus, and that the Embryo exists in the female ovaria; in a word that he pre-exists, and is raised from his slumber by the semen, which is taken into the circulation and afterwards conveyed to the ovaria. Spallanzani debited 3 grains of the semen of a Toad so as to impregnate thousands of ova. I think the semen acts specifically on the ovaria, a single grain of Mercury floating in the system, will be determined to the Salivary glands, &c. The Ovary thus impregnated, immediately falls into the uterus, when there, it excites nausea, which arises from the action of a new and uncommon stimulus. The nausea prevents too great inflammatory action in the vessels from irritation. Dr. Harvey knew a woman, who would always steal when pregnant, tho' very honest at any other time. Sometimes there is no nausea.

The body is in a diseased state from Conception to Delivery. The uterus is distended to fifty times

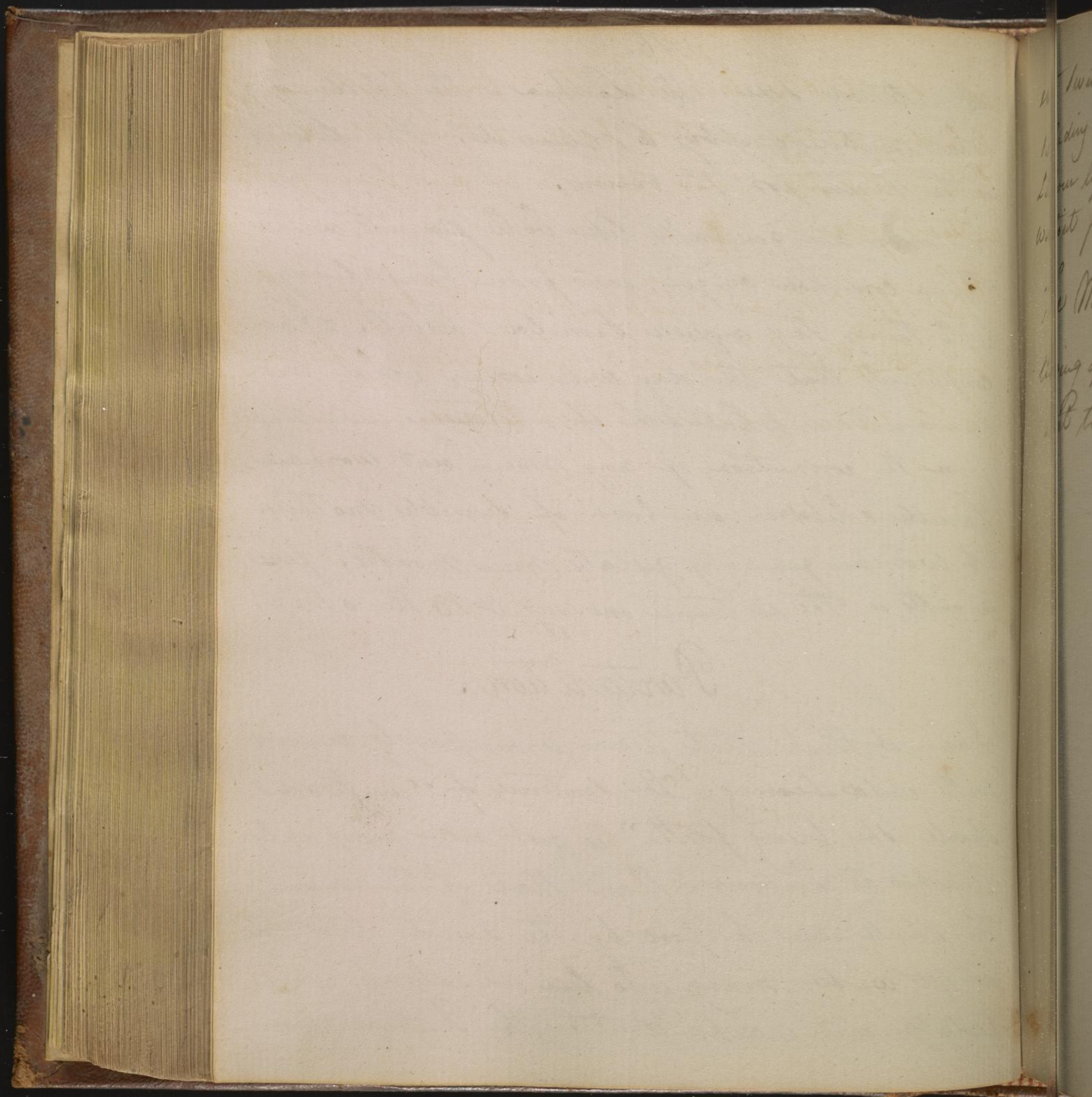


its natural sore; the Lochia is the bleeding which nature employs to relieve it. The uterus is the nidus for the ovum.

Children are generally like both parents, as they have a common origin; and from being always with them, they acquire similar habits. I am confident that the day will come, when we can ascertain what sort of children will result from the connection of any man and woman. Sensible children are born of sensible mothers. A woman generally gestates nine months; five months is the extreme one way, & 13 the other.

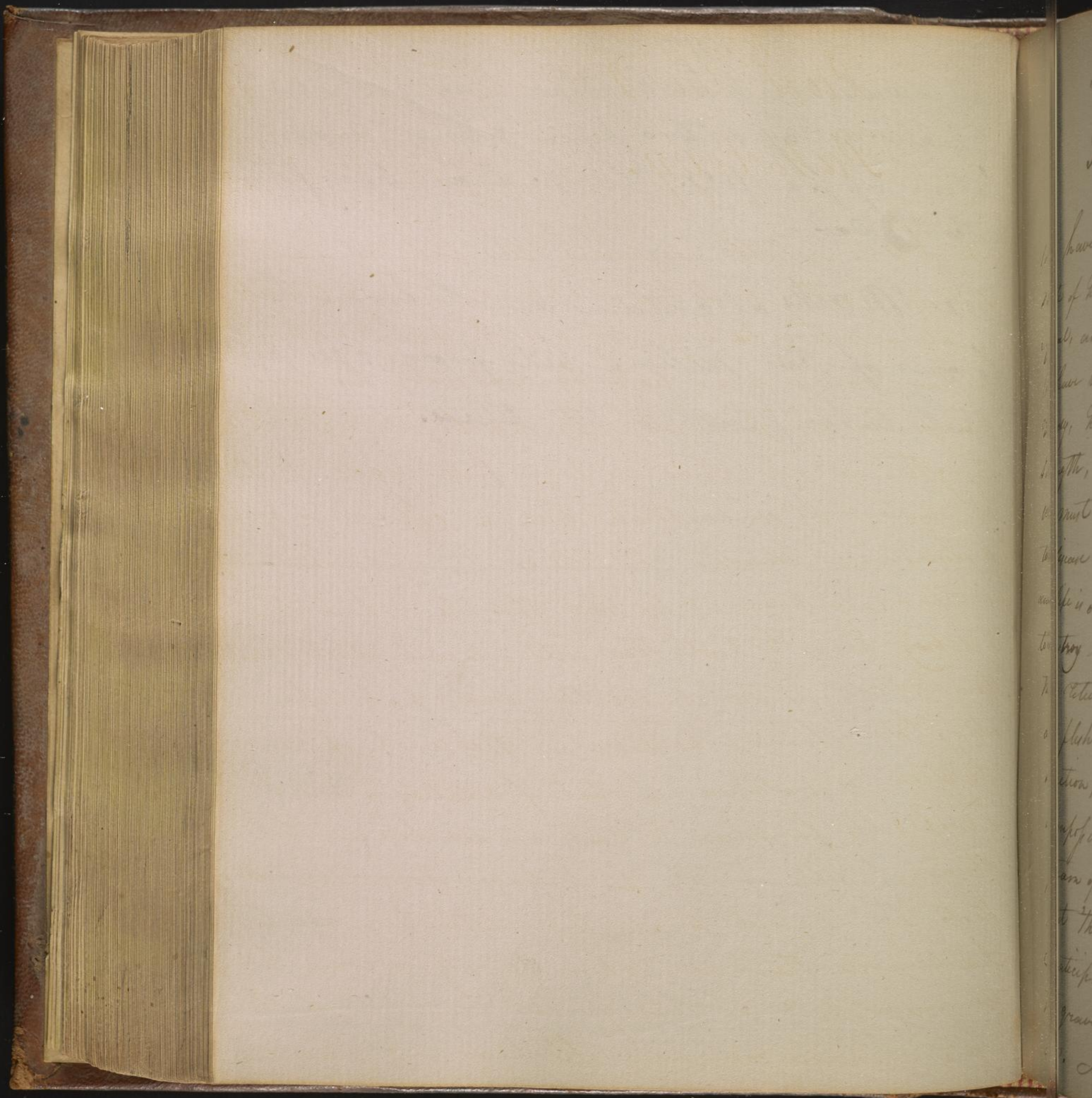
Parturition.

I cannot think that pain is necessarily connected with child-bearing. The sentence of "in pain shall she bring forth," is not more necessarily attached to Labour, than that of the man, "he shall earn his food by the sweat of his brow," and yet we see many, who live in idleness, comfortable and independent. The Russian women



eat Sweet oil to make them bring forth easy.
 Bleeding a day or two before delivery, renders
 Labour less painful. The Indians bring forth
 without pain.

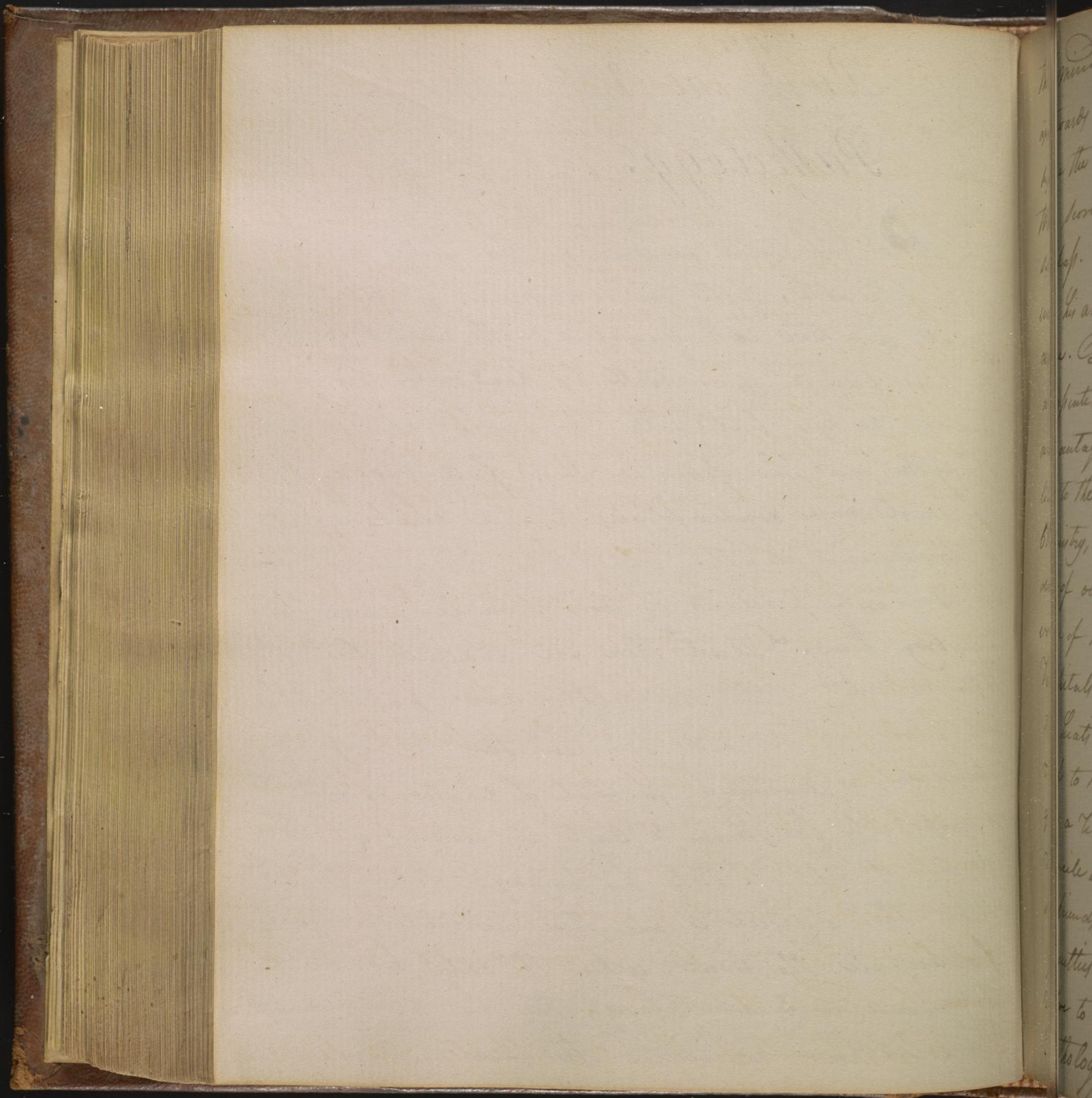
The Marks on children are not from the
 longing of the mother, but from effusions
 that take place in the uterus.



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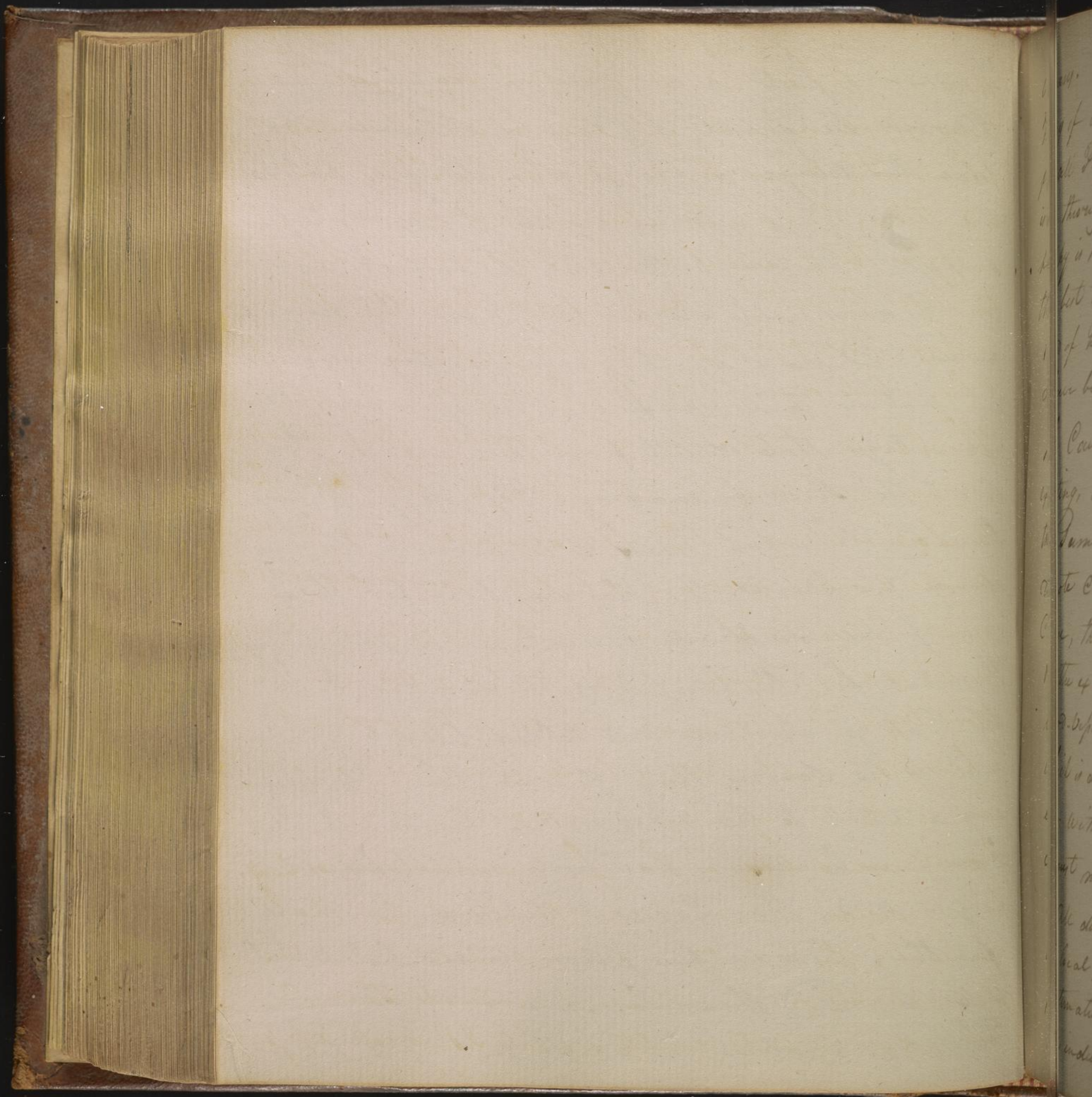
Pathology.

We have hitherto considered the body in a state of health, with the sentiment and excitability equal, and these both qualified with due strength. We have viewed man with his head erect, his face ruddy, his eyes brilliant, his muscles clothed with strength, and his senses in their full vigor. But we must now contemplate him a creature subject to decay and death. Death is his natural state, and life is only produced by those stimuli which tend to destroy him. "Dust thou art and unto dust shalt thou return" is the irrevocable decree pronounced upon all flesh. Time is as busy in the work of destruction, as Nature is, in that of creation; and it is impossible for man to cast an anchor in the stream of life, to stop his passage down the tide. But tho' subject to all these destructive agents, I anticipate the time, when the only avenue to the grave, will be through the medium of old age. I have considered the body as Divines do



the mind, first in a state of vacillate, and afterwards the subject of Pain and disease. Man before the deluge, arrived at a great age, but now, three score years and ten are the limits that few surpass. The air he breathes, his business, and even his amusements all conspire to aid the divine decree. Diseases are blessings in disguise, and are essential to the moral existence of man. The advantages that result from them are, 1. They lead to the study of Anatomy, Physiology, Botany, Chemistry, &c. which leads us to admire the wisdom of our Creator. 2. They give scope for the exercise of humanity and benevolence in providing Hospitals for the benefit of the distressed. 3. As the heats of Summer and Colds of Winter give a relish to the seasons that succeed them, so disease gives a relish to the enjoyment of health. 4. They reconcile us to death, both as it respects ourselves & our friends. 5. Their Physical action on the moral faculties, there are few persons diseased but what resolve to amend their lives.

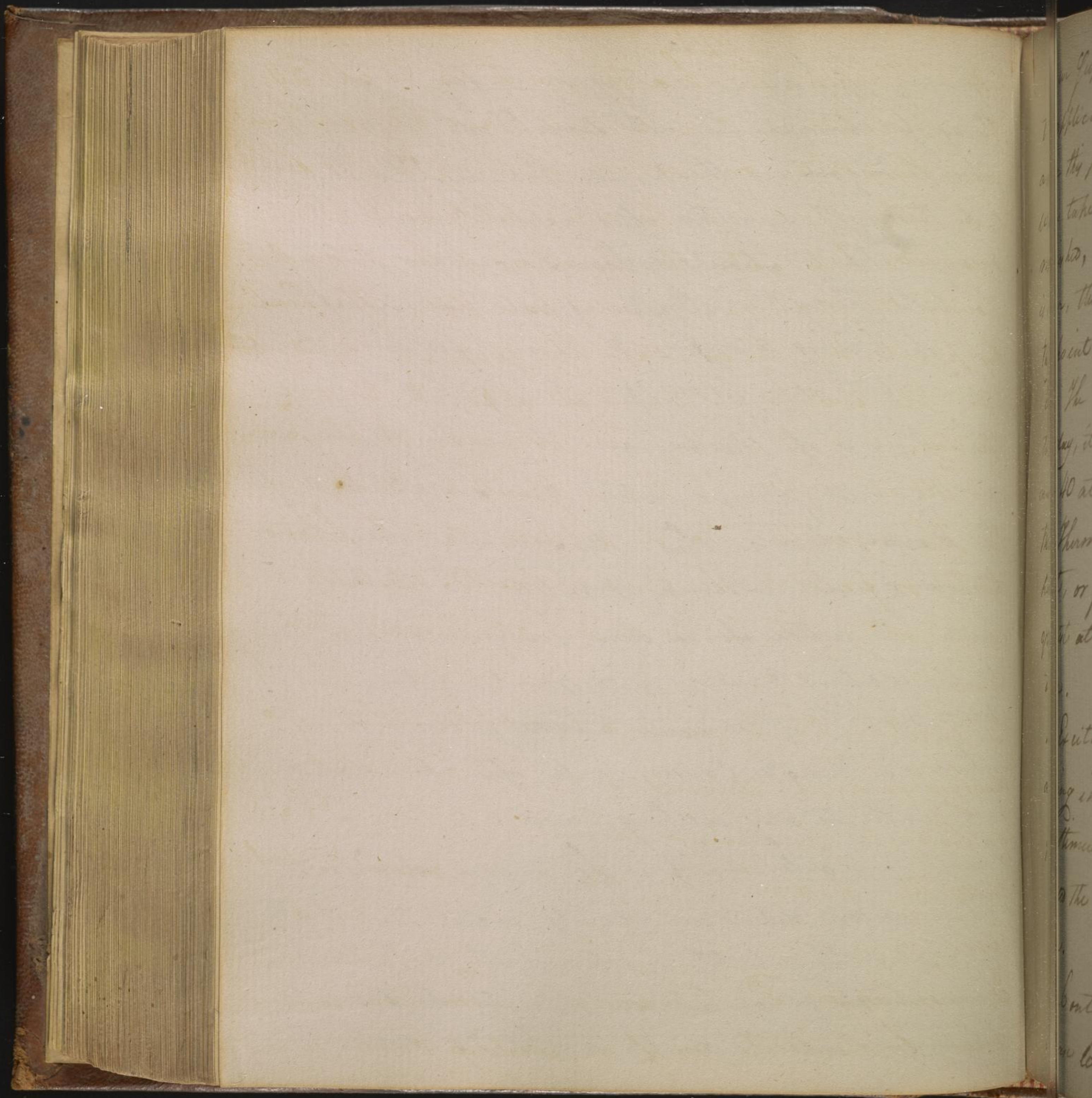
Pathology treats of the Causes, Seats, and Signs of



diseases. What I am going to say will be a Theory of disease; be not startled at the sound, for all Physicians think, all thiswise. "To think is to theorize" said the illustrious Darwin, "and happy is the patient whose Physician possesses the best theory." I differ from them all, for instead of having a different Theory for every disease I have but one Theory for them all.

The Causes of disease are Remote, predisposing, exciting, and proximate. They are all links of the same chain, thus Miasmata may be a Remote Cause, inducing debility the predisposing Cause, the action of the sun, irregularities in eating &c. the exciting Cause, and morbid action in the blood-vessels the proximate Cause. Strong drink, which is a Remote Cause, will often bring on disease without any exciting cause.

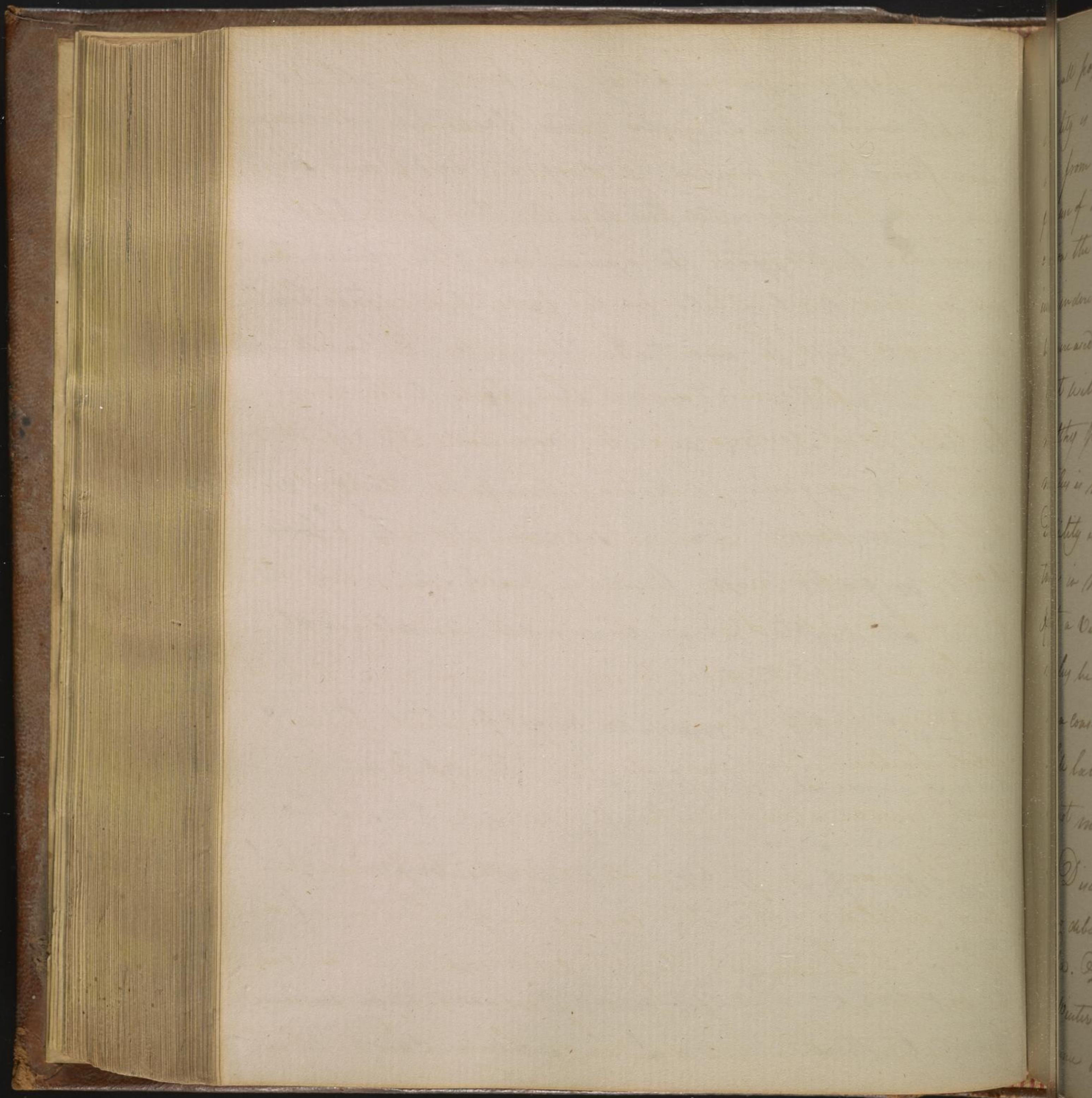
I must now deliver a few fundamental propositions,
 1. All diseases depend on debility, except those that are local; this debility is either direct or indirect: Post-natural or an increase of natural stimuli will induce indirect debility, or what I shall call depression.



If we suppose the healthy point to be at 50, the application of stimuli will raise the excitement above this point, an increase of strength and spirits will take place, and the excitability will be diminished, but after the operation of this stimulus is over, the excitement will fall below the healthy point, and the excitability will be raised above it. The excitement varies at different times of the day, it is at 40 in the morning, 50 at noon, and 40 at night; it has as great a range as the Thermometer, tho it seldom rises to blood heat, or falls to the freezing point. Debility is greatest at night, hence diseases attack at that time.

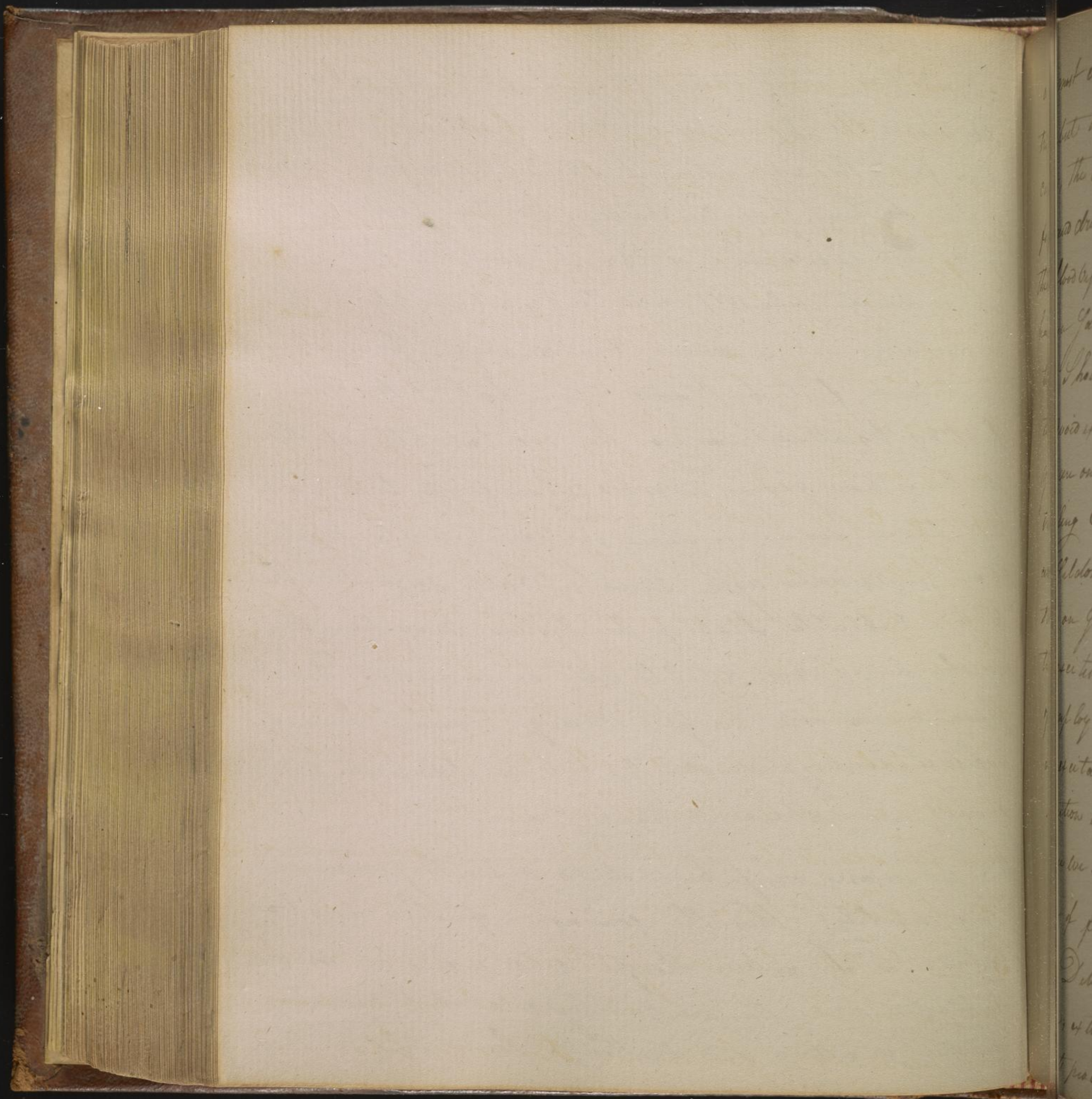
2. Excitability is increased by exercise action, producing indirect debility, or by the abstraction of stimuli producing direct debility. I have called the Indirect Debility of Dr. Brown, Disposition.

3. Contagion and Miasmata sometimes induce disease without the aid of an exciting cause, as in



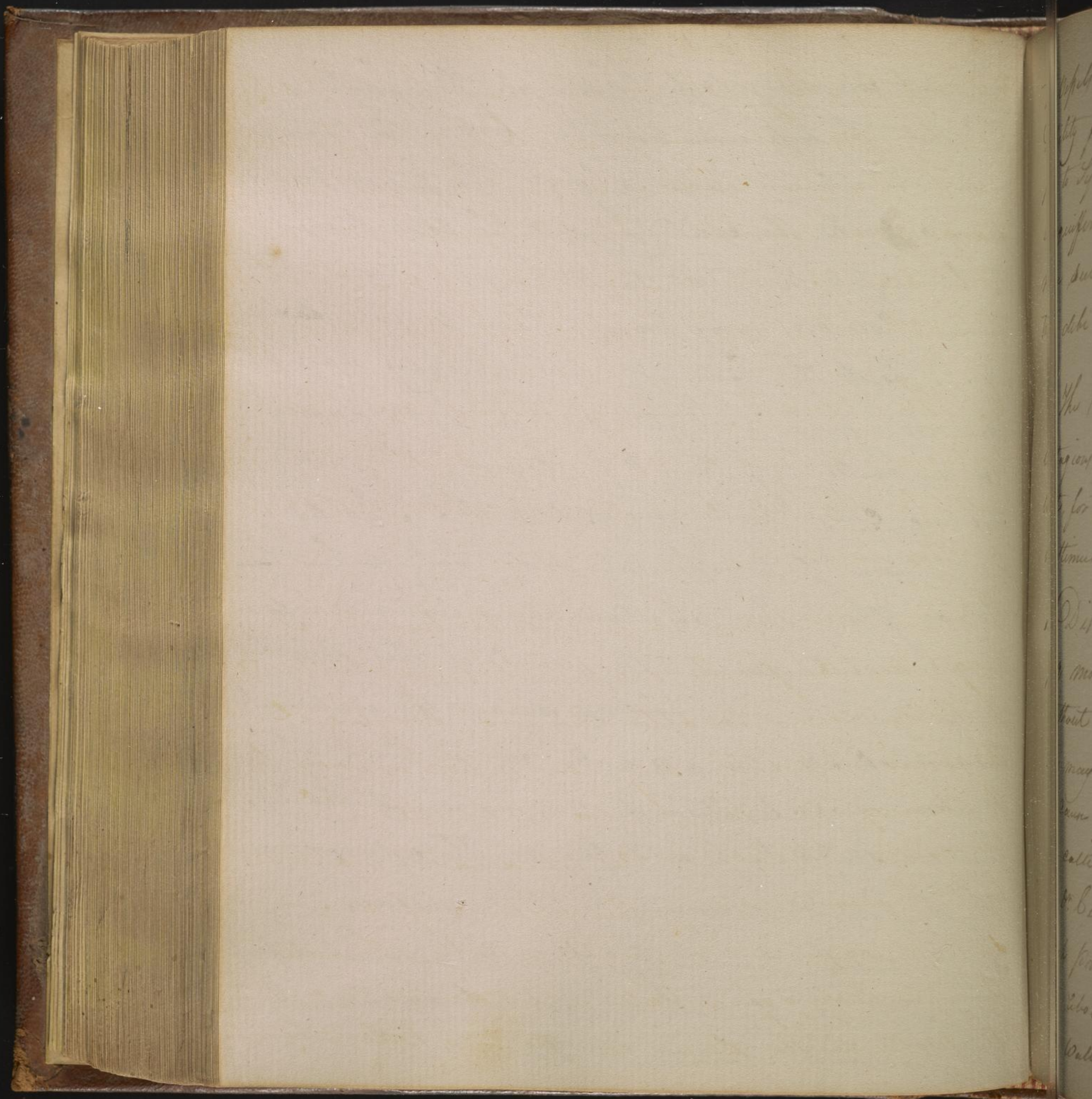
Small pox and yellow fever. I have said that debility is the predisposing cause of disease. It may arise from the abstraction of stimuli, also from a more free use of them than customary. On their first application the excitement is raised, but this will run into indirect debility and the excitability will be increased. Let a man run a mile, the excitement will first be raised & then fall below the healthy point increasing the excitability, if stimulus is now given, morbid action will take place. Debility is sooner induced in young & old people, than in middle aged, hence a walk will tire them. If to a vibratile state of the system, an active stimulus be applied, debility will be induced. Debility has a considerable range, many transact business while labouring under it, but in depression we cannot move about without pain.

4. Disease may be induced without predisposing debility; thus the contagion of Lues and variola. Dr. Franklin thought colds which are common in winter, are not produced by cold, but by intemperance in eating and drinking, hence, said he, they



are most common about Christmas. The fact is true, but the inference unjust; Cold is the remote cause, the debility induced by it, the proclivity to food and drink the exciting, and the convulsion in the blood vessels the proximate Cause. From what has been said we may make some useful inductions. Should the body be preternaturally debilitated, avoid exposure to night air, instantly pause, you are on the very threshold of disease, the most trifling cause will now induce it. Sailors are seldom sick when at sea, but when they stay on shore their excitability is increased before the excitement owing to the want of the stimulus of employment. In chronic diseases the excitement and excitability rise and fall on the least abstraction or application of uncommon stimulus, hence we should be particular in the administration of food & medicine in those diseases.

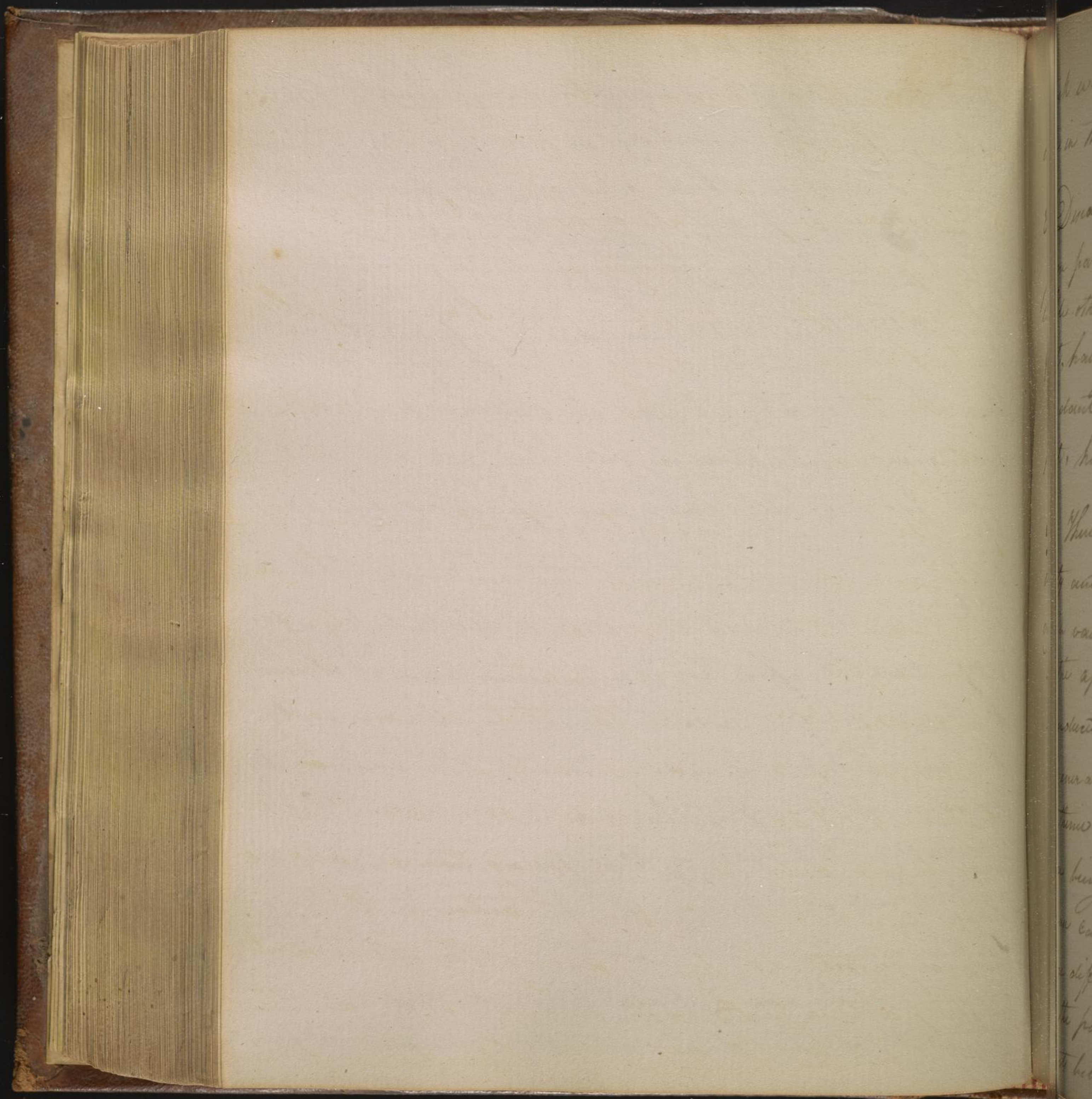
5. Debility generated by Stimuli induces depression; external Stimuli are not always necessary to its production, Food in the Stomach, blood in



The Nerves, the Passions, &c. may bring it on. Debility from evacuations as Bleeding, &c. predisposes to Syncope, which is a convulsion in the sanguiferous system. The Electrical Rod is not more sure to attract Lightning from the clouds than debility is depression, and depression, disease.

6. The Remote Causes of disease are, Poisons, Contagions, intemperance, &c. They are all an unit, for they all have one operation, and that is Stimulant.

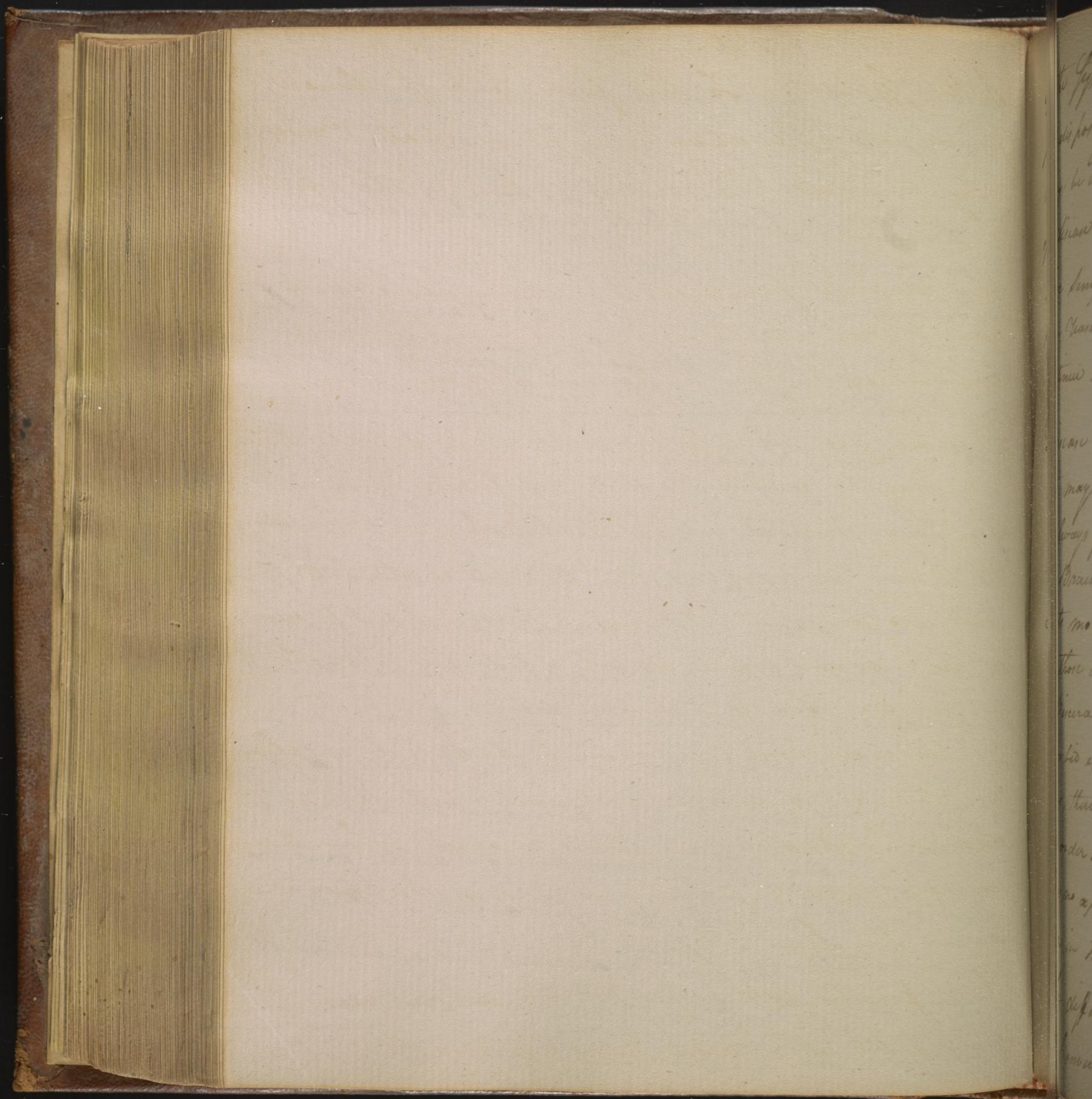
7. Disease consists in Morbis excitement; I say morbid, for the excitement may be raised without disease, as after Hunting, Singing, &c. this may dispose to irregular action or may be the cause of it. This Morbis excitement has been called Reaction or Vis Medicatrix Naturae, by Dr. Cullen; I deny the existence of any such principle. We might as well attribute the rebounding of a ball when driven against the wall, or the sound emitted by a Bell when



struck with a Hammer, to an inherent principle in them.

8. Disease is partial or unequal excitement. Some part of the body is in a minus state, while other parts are in a plus state, the plus part, having more strength, throws its superabundant excitement on the minus or weak part, hence disease.

9. There is often a great interval between debility and disease; during this interval the body in vain struggles to overcome the debility, for on the application of an exciting cause disease is induced. Dr. Brown says that disease may be general, and divides it into *Isthemic* and *Asthenic*. I say, there is but one disease, *asthenia* being only the predisposing cause, and no disease can be general. Our practice is quite more difficult. I, by reducing the excitement in the part affected, and increasing it in the parts below the healthy point, restore the Equilibrium.

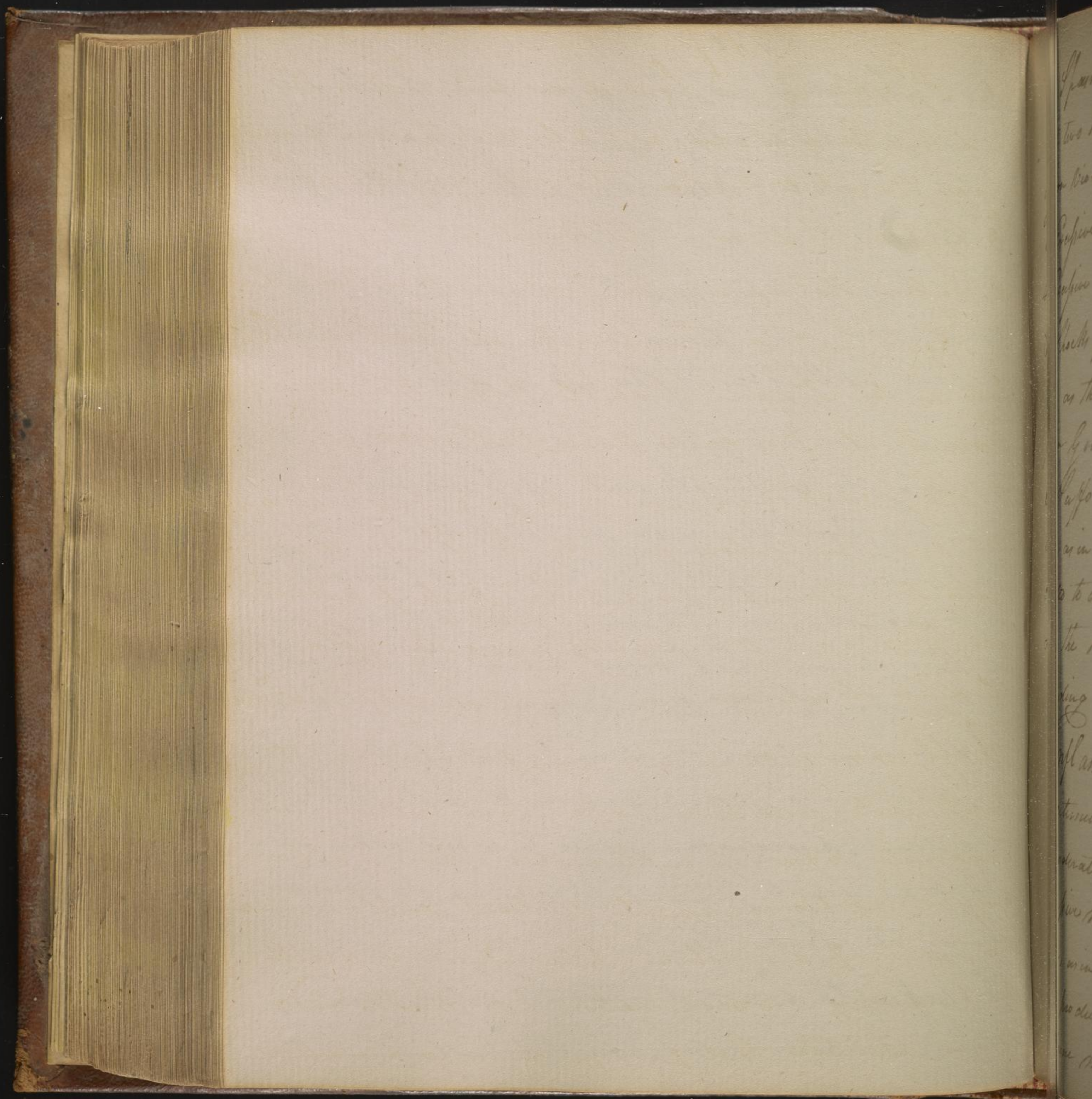


of the System. To the four links of Cause, Pre-disposing, exciting and proximate Cause, may be added Disorder which is the effect of disease.

Then simple principles by incorporating with your Reason, and thrown on the Memory, will continue with you to the end of your lives.

Disease does not always exist in a simple state, but may be complicated with depression. Disease is always partial, as in the Bowels in Dysentery, the Brain in Apoplexy, &c. Morbid excitement prevents motion, as in Tetanus. There is little pain in those diseases which do not affect the muscles or viscera. There is but one disease, and that is morbid excitement; it may be said, that in effusions, there is no morbid excitement, but this is disorder. Disorders are found to exist when there was no apparent previous disease, as Suppuration in the Liver, &c.

The different forms of Morbid action are,
1. Convulsed action, as in Fever, Epilepsy, &c.



2. Spasm, as in convulsions and Colic: this is of two kinds, Tonic and Clonic, the one depending on violent contraction, the other on Relaxation.

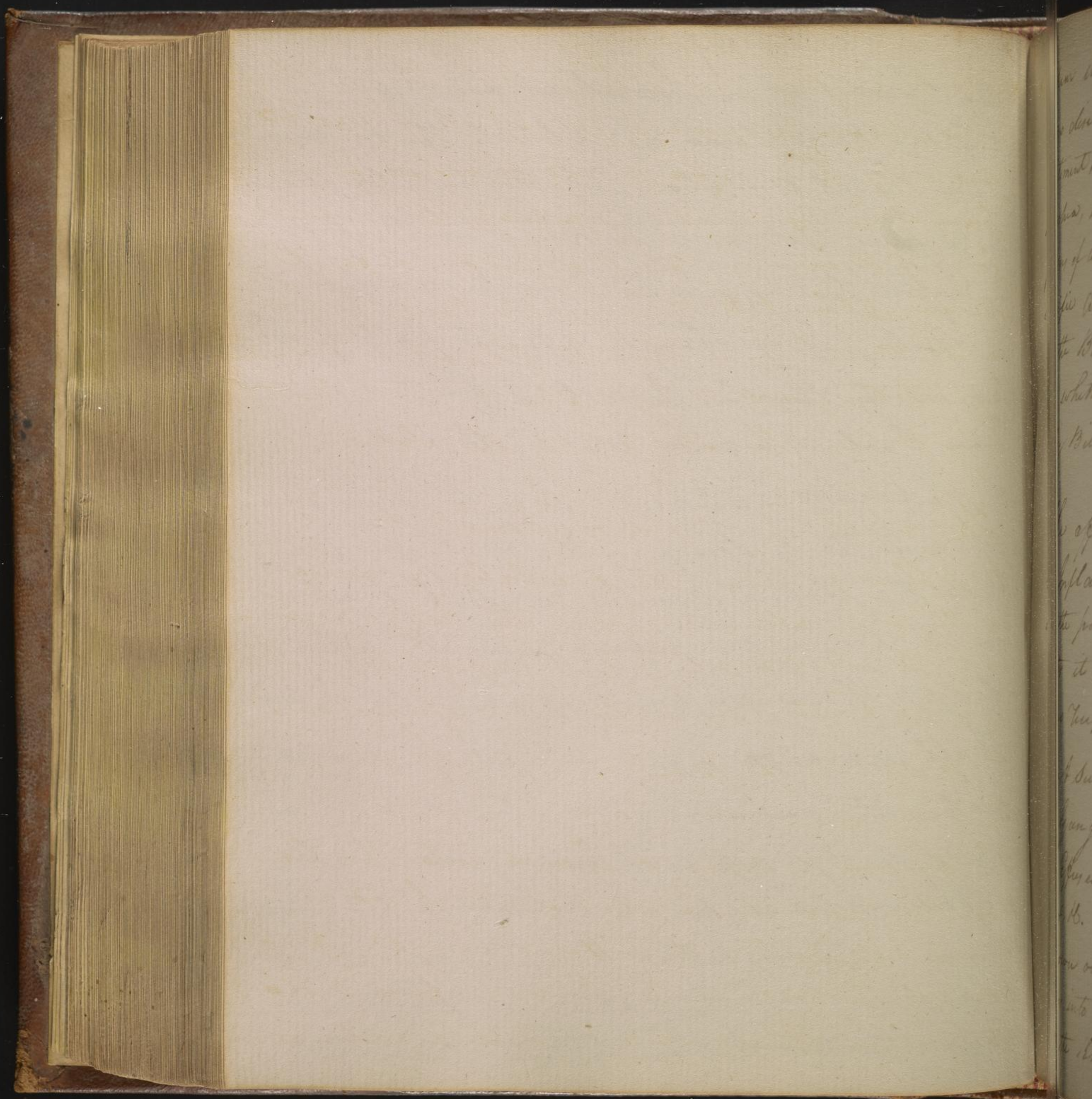
3. Excessive Heat, as in the Bowels in Dysentery.

4. Excessive Itching, as in the Anus, Pruritus, &c.

5. Shocks passing through different parts of the body, as the Breast, head, &c. When this proceeds from without it is called *Aura Arthritica*.

6. Suppressed excitement, so as to suspend motion, as in the yellow fever, &c. Dr. Physic was called to a patient who had her Skull fractured, and the Brain was perfectly quiescent, after bleeding its motions were immediately restored.

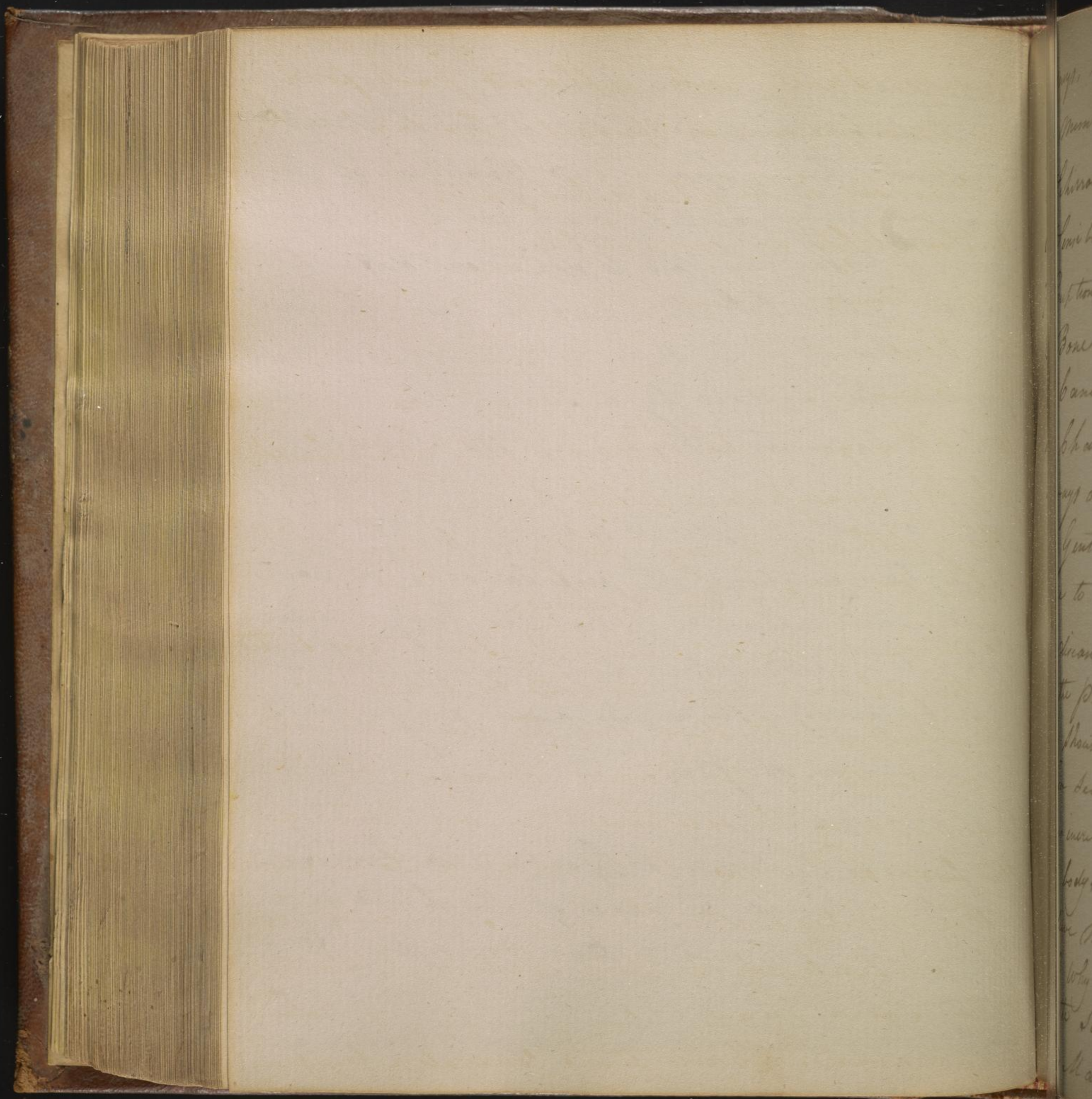
Inflammation is only an effect of Morbid excitement, and never takes place but in a moderate degree of excitement. There is often excessive morbid excitement without inflammation, as in Hydrophobia, Colic, Dysentery, Apoplexy, &c. producing disorganization and death. Dr. Blane mentions, that few signs of inflammation



appear in the diseases of the West Indies. There is no disease confined to one species of Morbid excitement, Hence Spasm and Convulsion of the Trachea, in *Cynanchus Trachealis*, &c. Different forms of disease are said to depend on different specific Actions, but this is not the Case, the Gout in the Breast is the same as Pleurisy, and vomiting, whether produced by a Stone in the Bladder, or by Bile in the stomach, is the same.

The effects of Morbid excitement are,

1. Inflammation, the circulation is increased in the part inflamed. When the body reciprocates it is called Active, but passive when there is no reciprocity, this is also called congestion.
2. Absorption of pus.
3. Gangrene.
4. Effusions of Serum or Lymph into the Thorax, &c. When all the parts of the blood are thrown out together it is Hemorrhage. Effusions into the cavity of the Thorax, &c. form Dropsy; into the Joints, Rheumatism; into the Bladder or



Kidneys, Stones; into inflamed parts forming Membranes, as in *Cynanche Trachealis*; &c.

5. Shirrous in the glandular parts.

6. Sensibility or insensibility.

7. Eruptions, as in Measles, &c.

8. Bone.

9. Cancer.

10. Changes in the fluids, there are almost always accompanied with pain.

This gentleman is my Theory. It gives a clue to the cure of disease.

Is disease a Unit? and is it sometimes seated in the Pleura? and is this cured by bleeding?

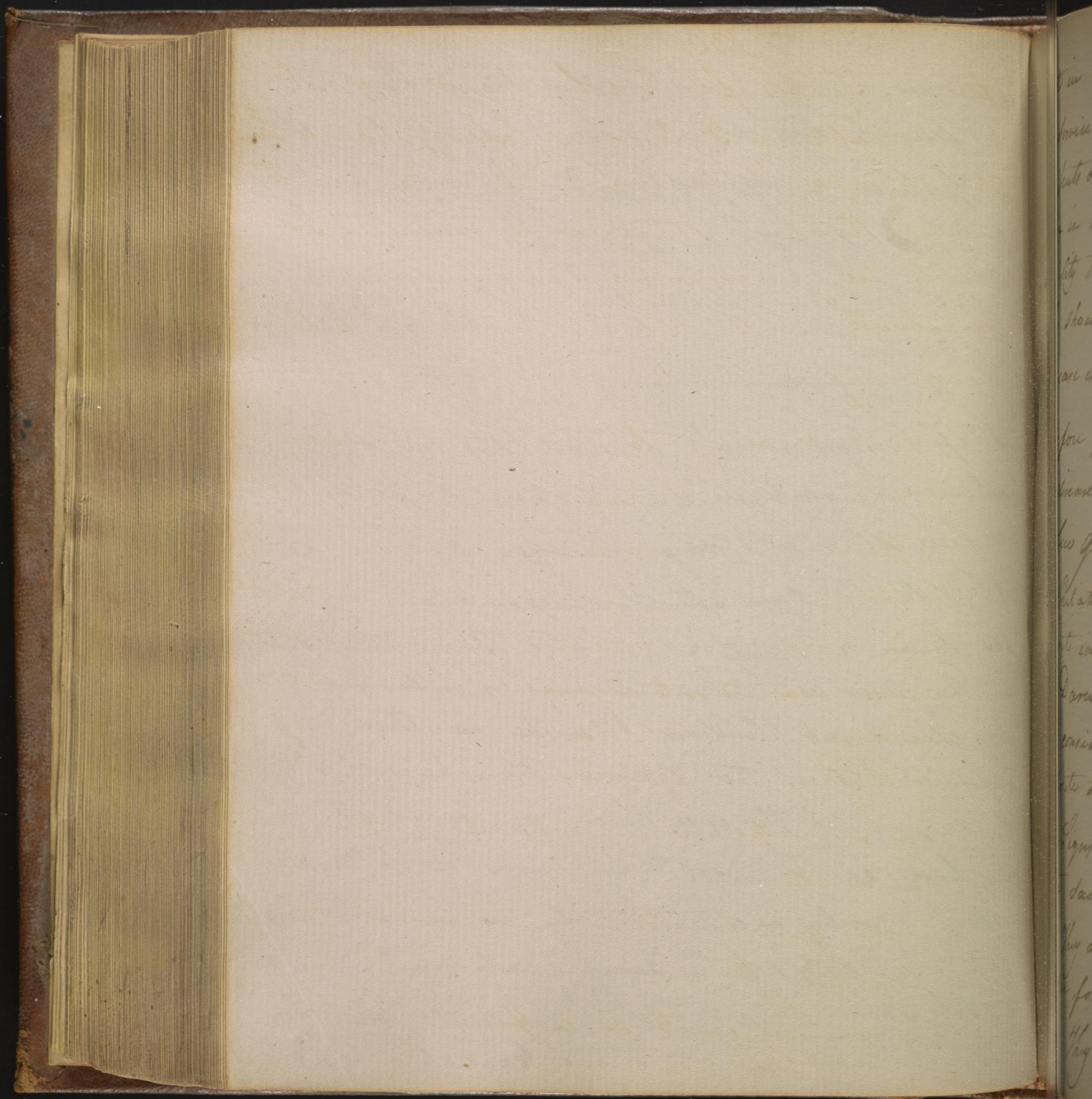
Why should not bleeding cure the same disease when seated in the Kidneys, Trachea, &c.?

Does increasing the excitement in one part of the body, as the mouth by means of Salivation,

relieve morbid excitement in another, as the Liver,

&c.? Why should not the same excitement, removed by the same means, relieve in Dysentery, Colic,

and Mania. Have strong cordials a beneficial



apts in Typhus fever? why should they not be serviceable in Pulmonary Consumption when it puts on a Typhus form? this is known to occur in the last stage of this disease. Is debility the predisposing Cause of disease? why should not this debility be removed before disease is formed? —.

Before proceeding to speak of the signs of disease, it will be necessary to premise a few general observations; and

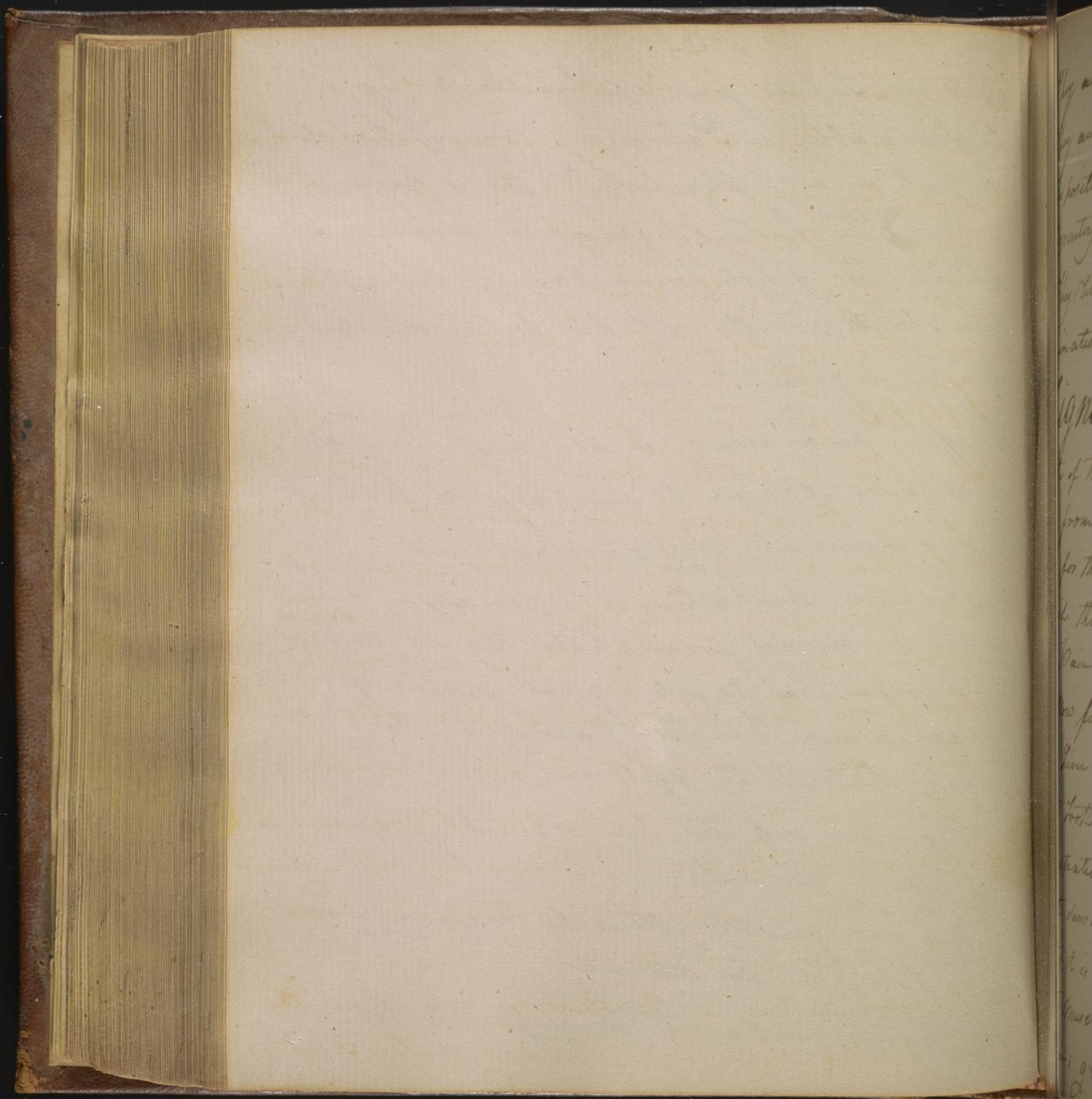
1. Pulsations, Sympathies, or Associations are different in disease from what they are in health.

D^r Darwin was led into a great number of errors by considering them the same in these very opposite states of the system.

2. Signs are different in different people, in the same disease.

3. They are greatly altered by the greater or lesser force of the disease.

4. They are different in different countries.



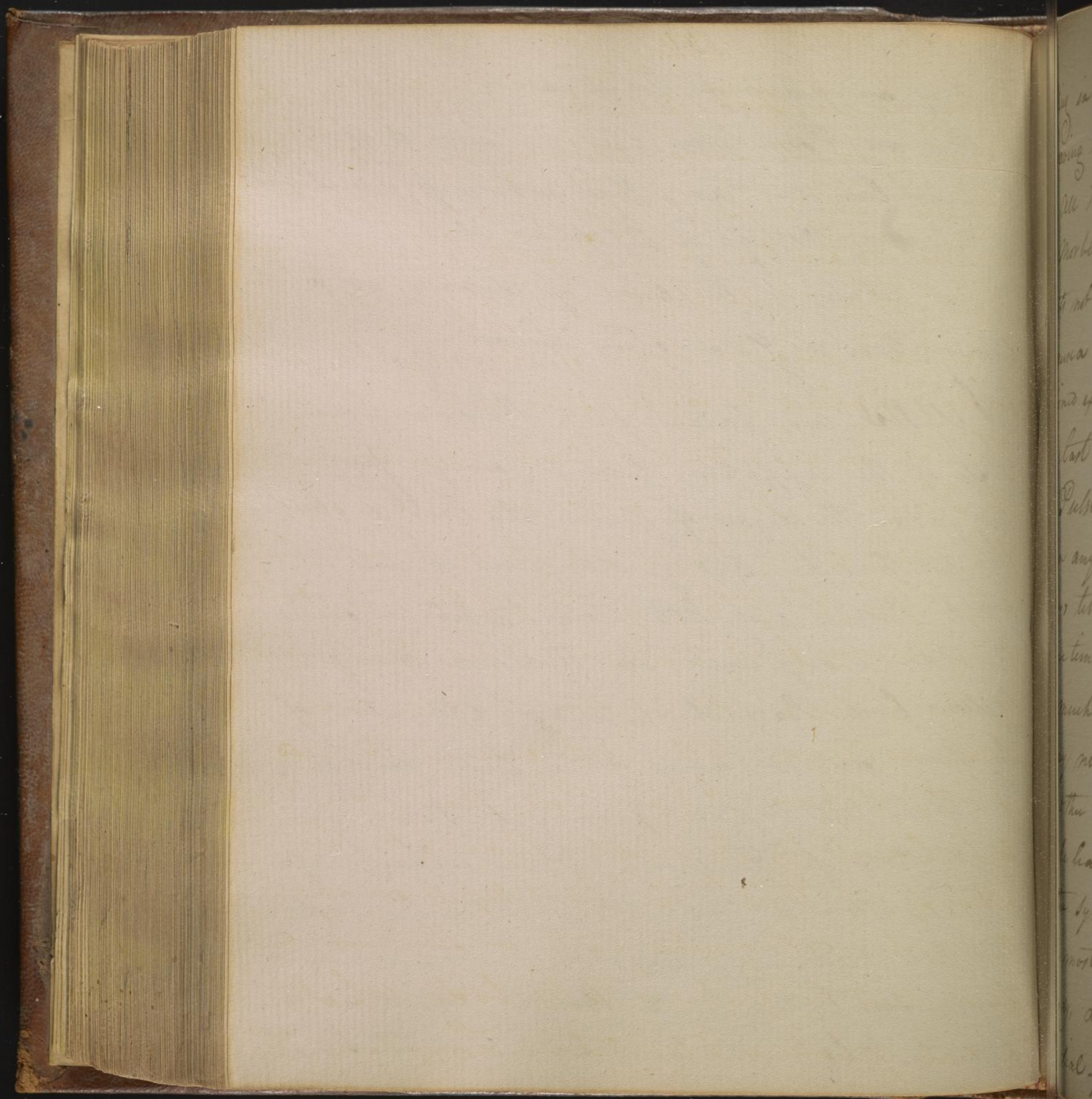
5. They are part of the disease.

6. They are sometimes the disease itself.

Proclivity is a sign, thus Costiveness is a sign of Dysentery; Stiffness of Apoplexy, &c.

7. They relate to the crisis of disease, or to its termination in some other disease.

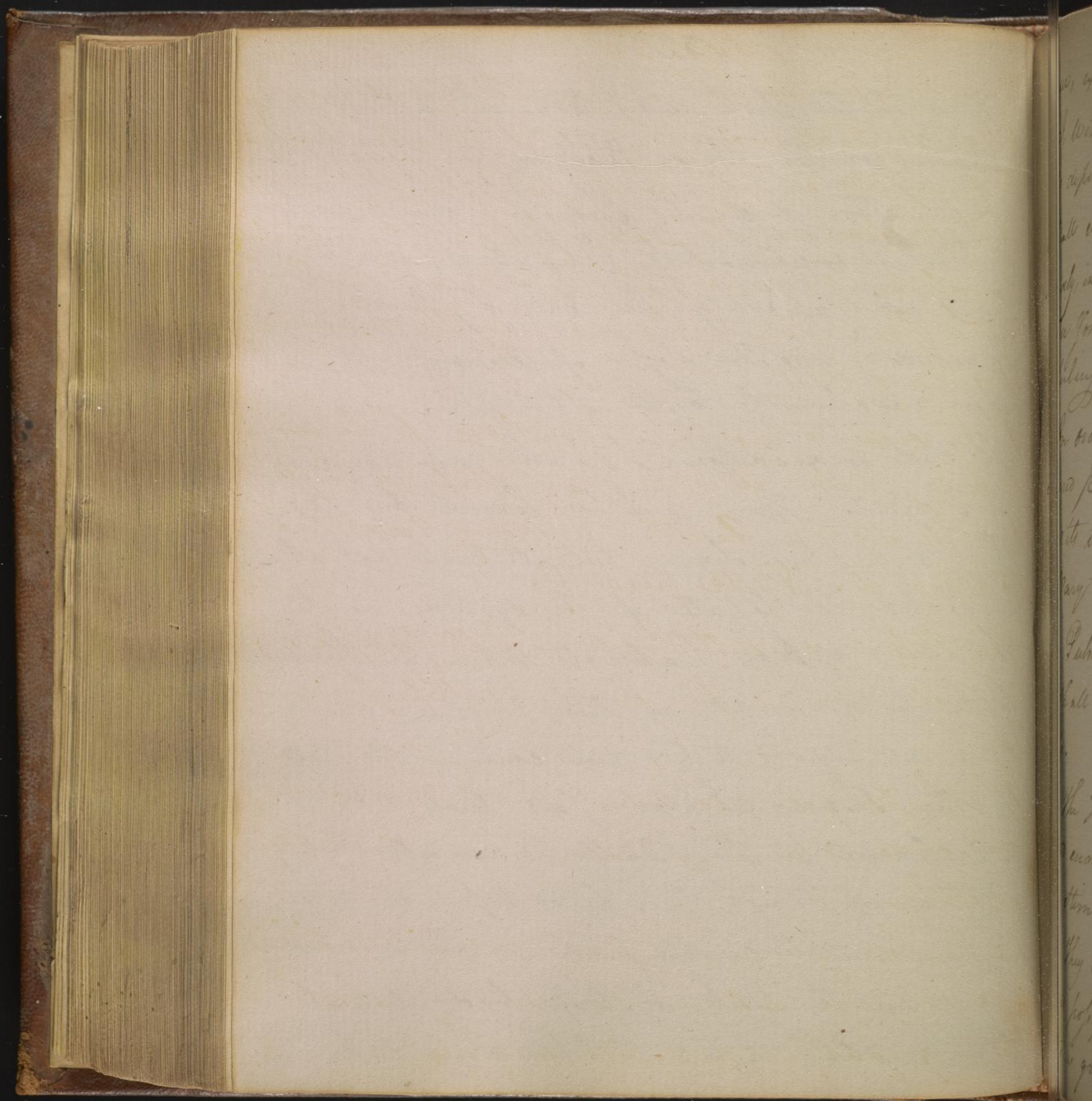
SIGNS are taken from the Excretions, state of the appetite, Countenance, Pulse, &c. and from the degree of pain, the last is decisive for there are many dangerous diseases in which there is very little pain; while in others the pain is very acute, tho' there is no danger: Yellow fever, Psoas Abscess, and Suppuration of the Liver are instances of the first position, and Tooth-ach & pain from gall-stones are illustrations of the second. Pain imparts different sensations in different parts of the body, thus it is Acute in Membranous parts; Lancing in the Muscles; twisting in the Bowels; burning on the skin; grating in the bones; binding in the Temples;



jirking in the Tooth-ach; Sore in the Head-ach;
 & having on the Shins; throbbing in phlegmory;
 &c. All these different forms of Pain depend
 on Morbid excitement. Anxiety is produced in
 Parts not capable of the tone of Pain.

Nausea is another sign of disease, this is
 confined exclusively to the stomach.

The last indication I shall mention is
 the Pulse. More is to be learnt by this
 than any other sign, but it will not al-
 ways tell the state of the system, as it
 sometimes appears natural when the system
 is much deranged; in these cases we must
 pay no regard to it, but call in the aid
 of other signs. I have said that more is
 to be learnt by the Pulse than all the
 other symptoms: The blood vessels occupy
 the most distinguished part in the human
 body, and the Pulse is to the body, what
 a dial-plate is to a watch. Some take the



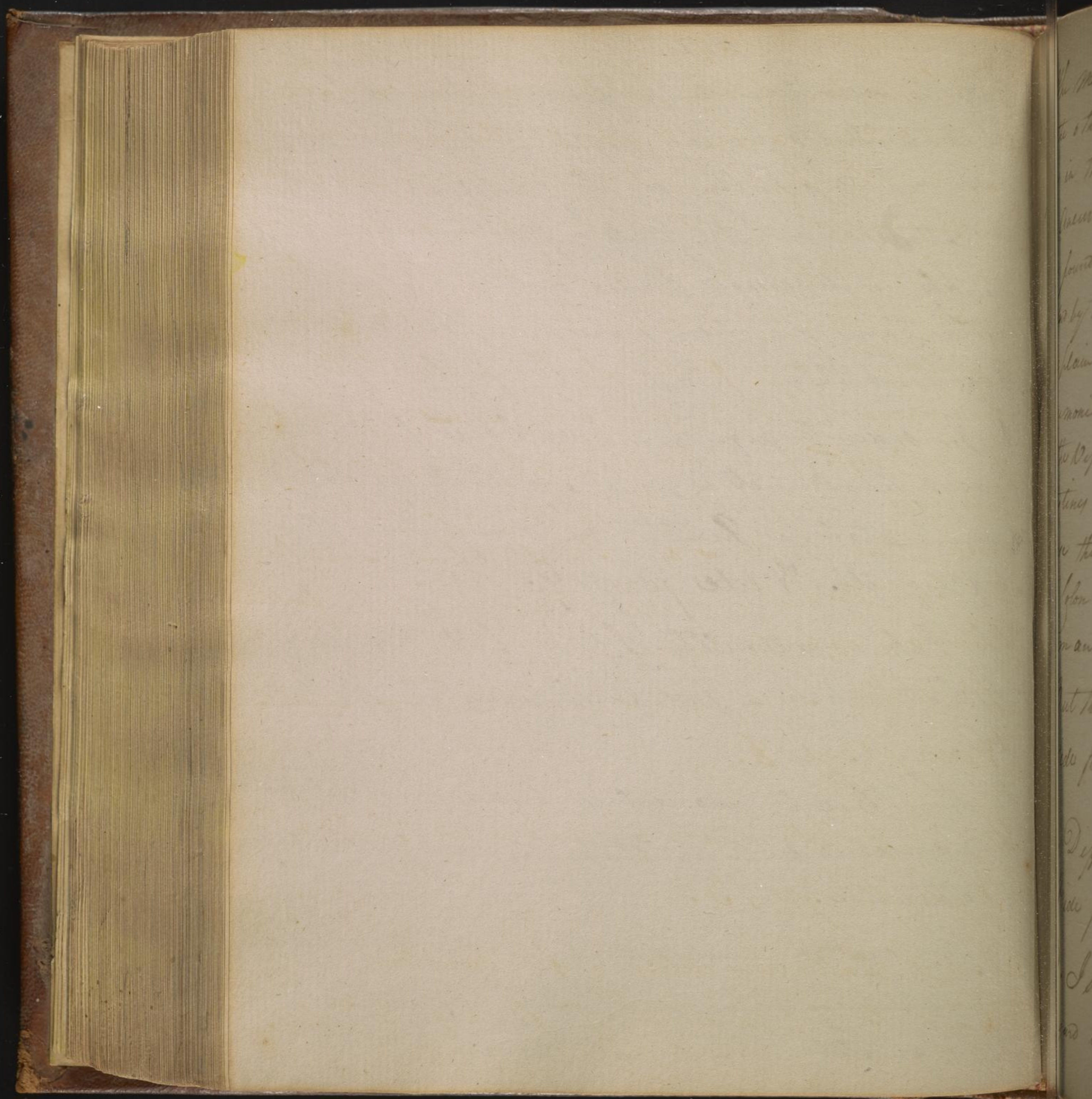
Tongue, excretions, &c, in forming their diagnosis, but I, without losing sight of the other symptoms, depend chiefly on the pulse.

I shall consider the pulse, first, in its natural, secondly, in its morbid state, and thirdly shall deliver some deductions concerning the manner of feeling it.

1. In order to acquire a knowledge of the disordered pulse, it is necessary that we should know its state in health; as many causes tend to vary it. Vide page 9.

The Pulse is difficultly felt in fat people. I shall deliver a few fundamental principles.

1. The Heart and Arteries being muscular and endowed with irritability, are susceptible of stimuli.
2. They are an individual, integral whole, and possess an extensive sympathy; this sympathy is greatest in internal diseases.

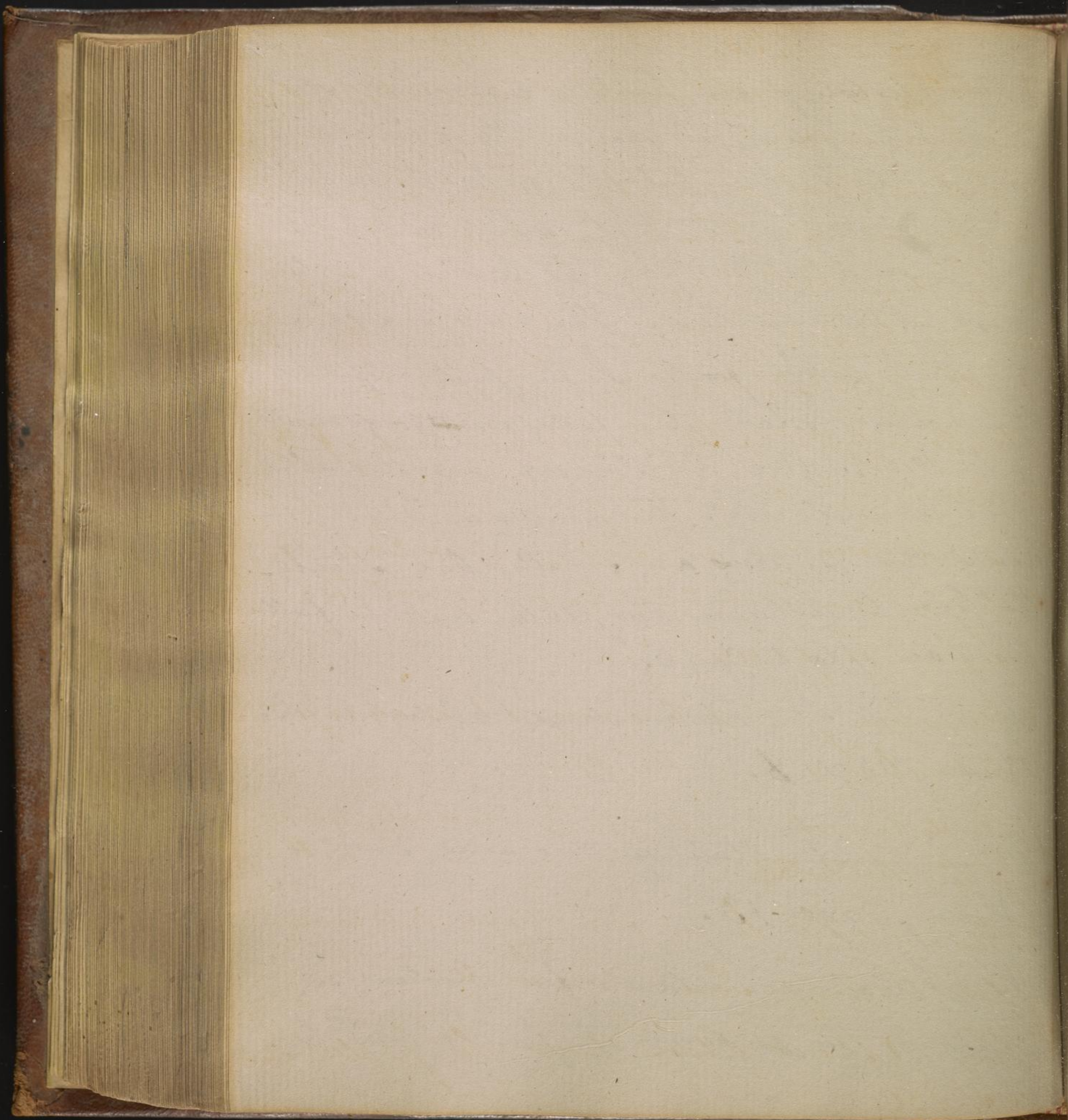


3. The motion of one part is communicated to the other parts. It was by the peculiar jar in the pulse, that I was led to suspect an Aneurism in M. Whit, which on dissection was found to be the case, his Aorta had been pierced by the osseum. This gives us a clue to explain many facts. Is the pulse soft in Pneumonia Notha? it is from an ~~en~~gorgement of the Vessels. Are the stomach and small Intestines inflamed? the pulse is small, because their Arteries are small; but should the colon be inflamed, the pulse will be fuller from an opposite cause.

But these sympathies do not always exist,
 Vide page 8.

2. Different States of disordered Pulse,
 Vide page 13.

3. I shall now deliver a few directions in regard to the manner of feeling the Pulse.



1. Apply your right hand to the patient's left, and vice versa.

2. Feel with as many fingers as you possibly can, as you will have a more distinct perception.

3. Feel it in both arms, as it is some times different in the arms of the same person.

4. The hand should be prone, and the arm so situated as to relax the muscles and take off suspense.

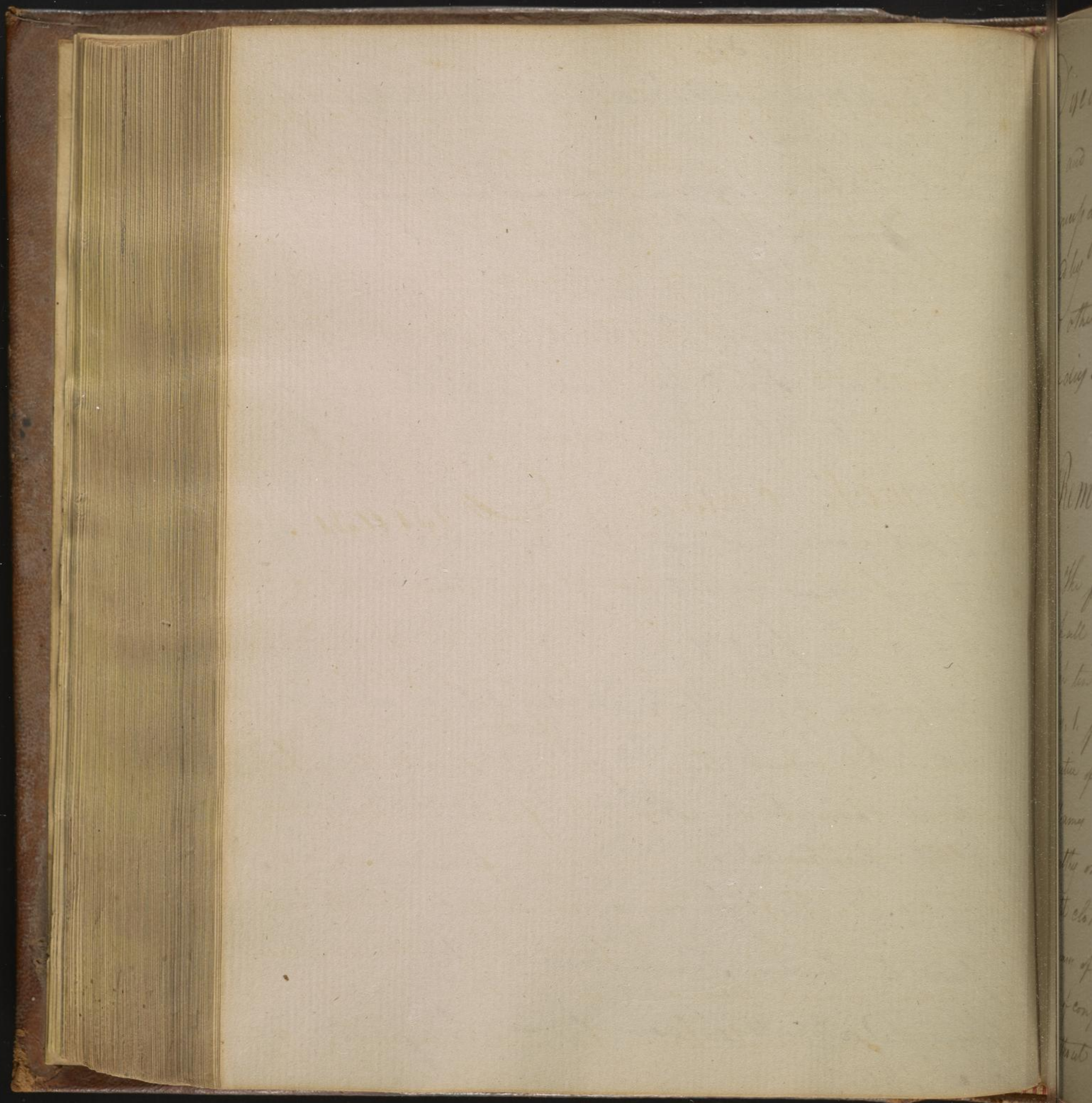
5. Shut your eyes and stop up your ears, so that you may concentrate perception at the ends of your fingers.

6. Accustom yourself to always sit or always stand when feeling the pulse.

7. If it cannot be felt at the radial artery, try the temporal.

8. Rubbing the fingers over rough substances is said to render touch more acute.

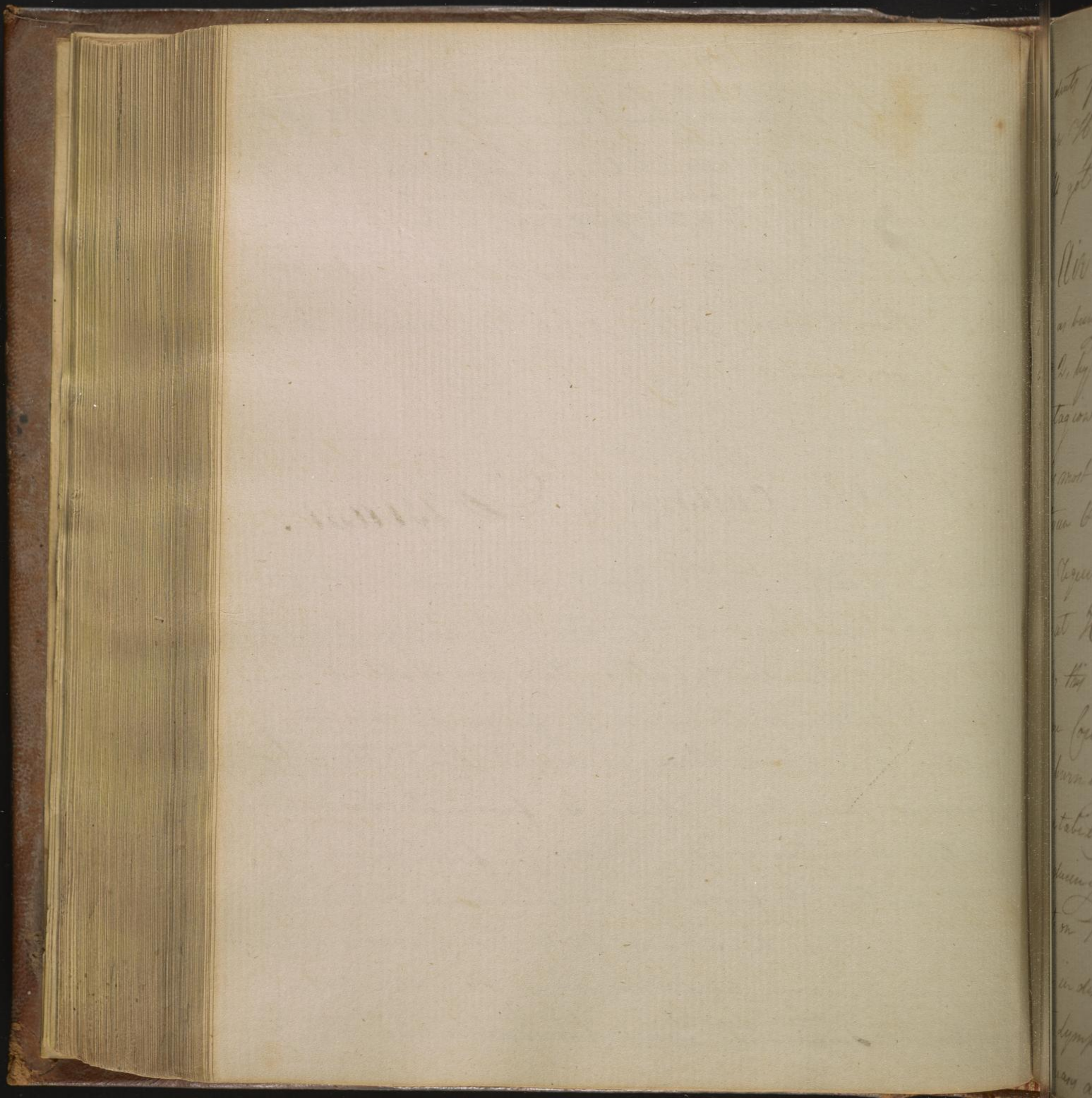
Those patients seldom know whose pulse examines 130.



Diseases have been divided into Idiopathic and Symptomatic. This distinction is unnecessary. Hydrophobia, whether induced by the Bite of a Rabid Animal or any other Cause, is cured by the same Remedies. —

Remote causes of Disease.

1. The first Remote cause of Disease that I shall mention, is the treatment of Infants, which tends to debilitate. They are liable to injuries, 1. from Parturition, 2, from the absurd practice of washing them in ardent Spirits, &c, which inflames their tender skins. 3, from Sucking un-healthy or intemperate Nurses. 4, from wearing tight clothes. 5, from the use of Ardent Spirits in diseases of their bowels. 6, from the pernicious custom of confining Children in a school room without sufficient time for amusements. 7,

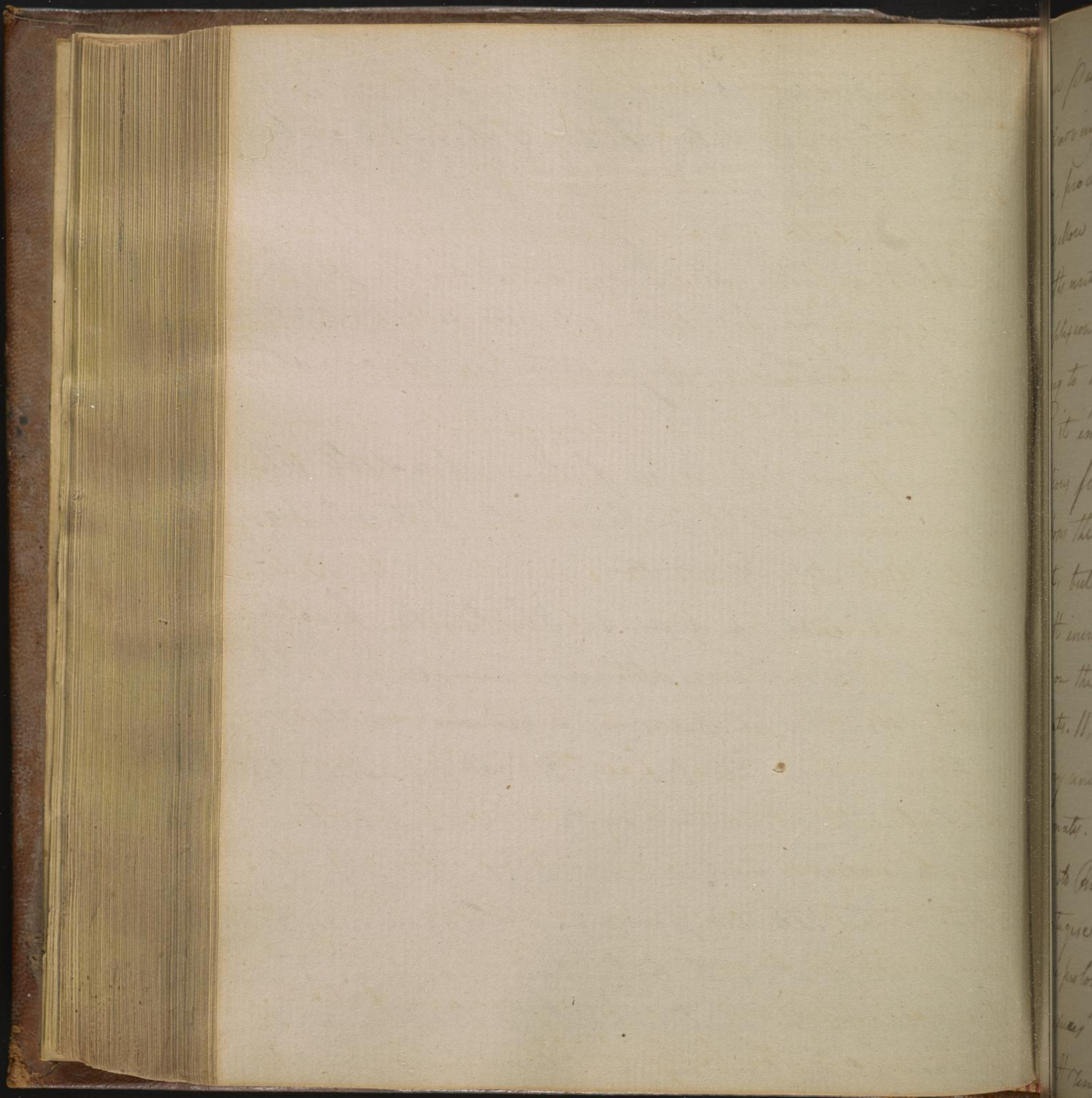


accidents from turning, jumping, &c. I have known Hydrocephalus Internus brought on by falls got in play.

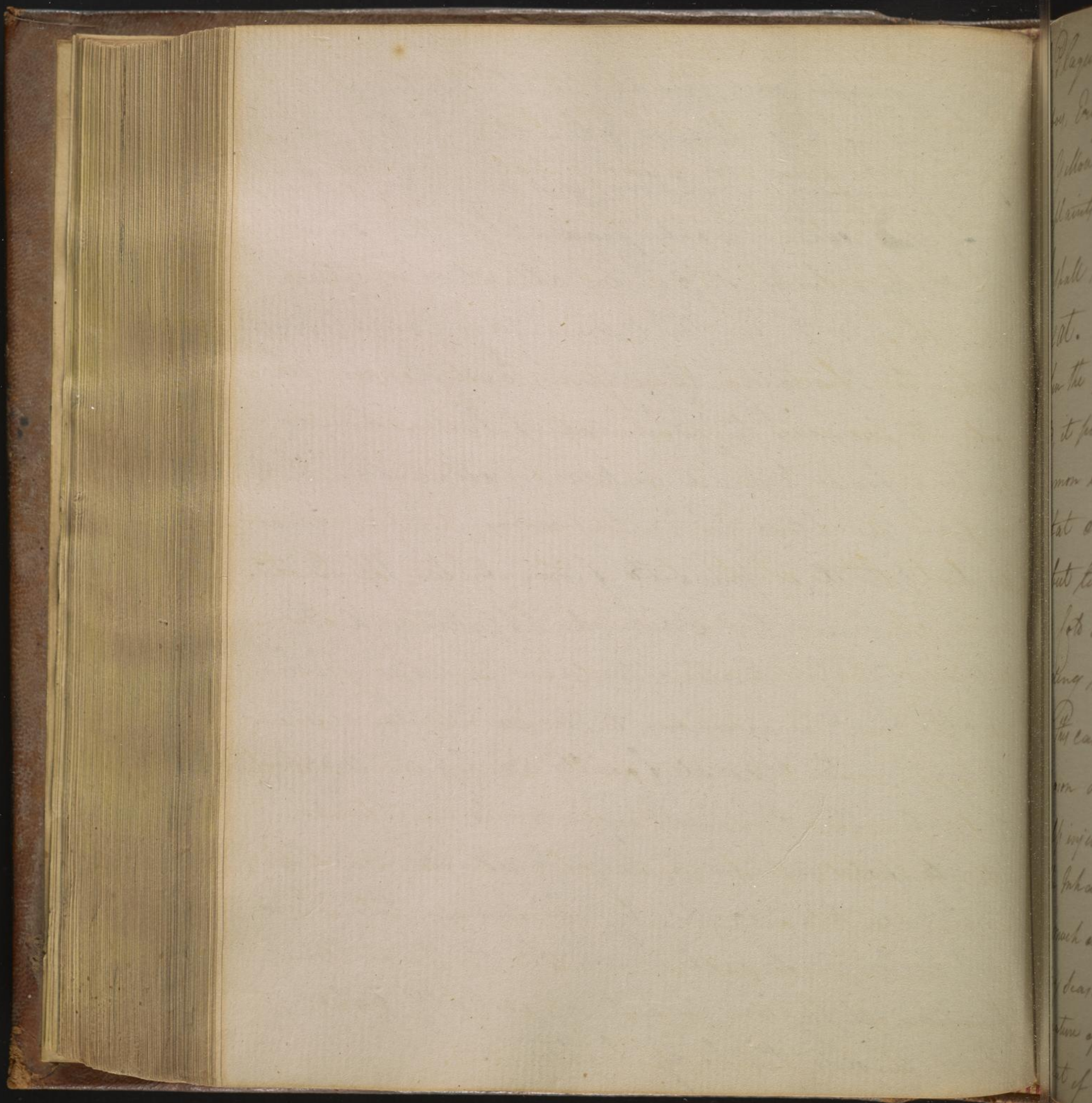
2. Air. This acts, 1. by its sensible qualities, as being too hot or too cold, too wet or too dry; and 2, by certain impregnations, as Miasmata, Contagion, &c.

It is most agreeable to the feelings of adults when between 62 and 75° of Fahrenheit, but old people require it warmer.

Great Heat induces, 1, Thirst, 2, Insolation, this disease is unknown in Africa. In some countries it produces a disease called Vitta or burning in the anus. 3, It increases the excitability, and acts on the nervous system inducing Convulsion and Syncope. 4, It acts on the Muscles producing Languor, and an indisposition to voluntary Motions. 5, On the Lymphatic System, causing Buboes, and increases absorption in the alimentary Canal,



hence people are troubled with costiveness
 on removing to a warm climate. 6. On the
 skin, producing Eruptions, and a yellow colour,
 this yellow colour is only produced by the Sun, as
 Smiths and flocks suffer no alteration in their
 complexion. 7. On the Alimentary Canal, dis-
 posing to Dysentery, Diarrhea, and Cholera Mor-
 bus, it increases the Secretion of Bile, hence
 Bilious fevers prevail in warm climates. 8. It
 disposes the blood to Putrefaction, I say dispo-
 ses it, but it is prevented from it by the Bile.
 9. It increases the Venereal appetite. 10. It
 acts on the Eyes, hence ophthalmia in warm cli-
 mates. 11. It is injurious to the mind, hence Me-
 mory and the Moral faculty are less in warm
 climates. 12. It is least injurious to old people,
 the old Romans used to move to Naples, and the
 Portuguese to Brazil, by this means their lives
 were prolonged several years. 13. It sometimes
 produces depression, which is generally fatal.
 14. It renders the body lighter, .



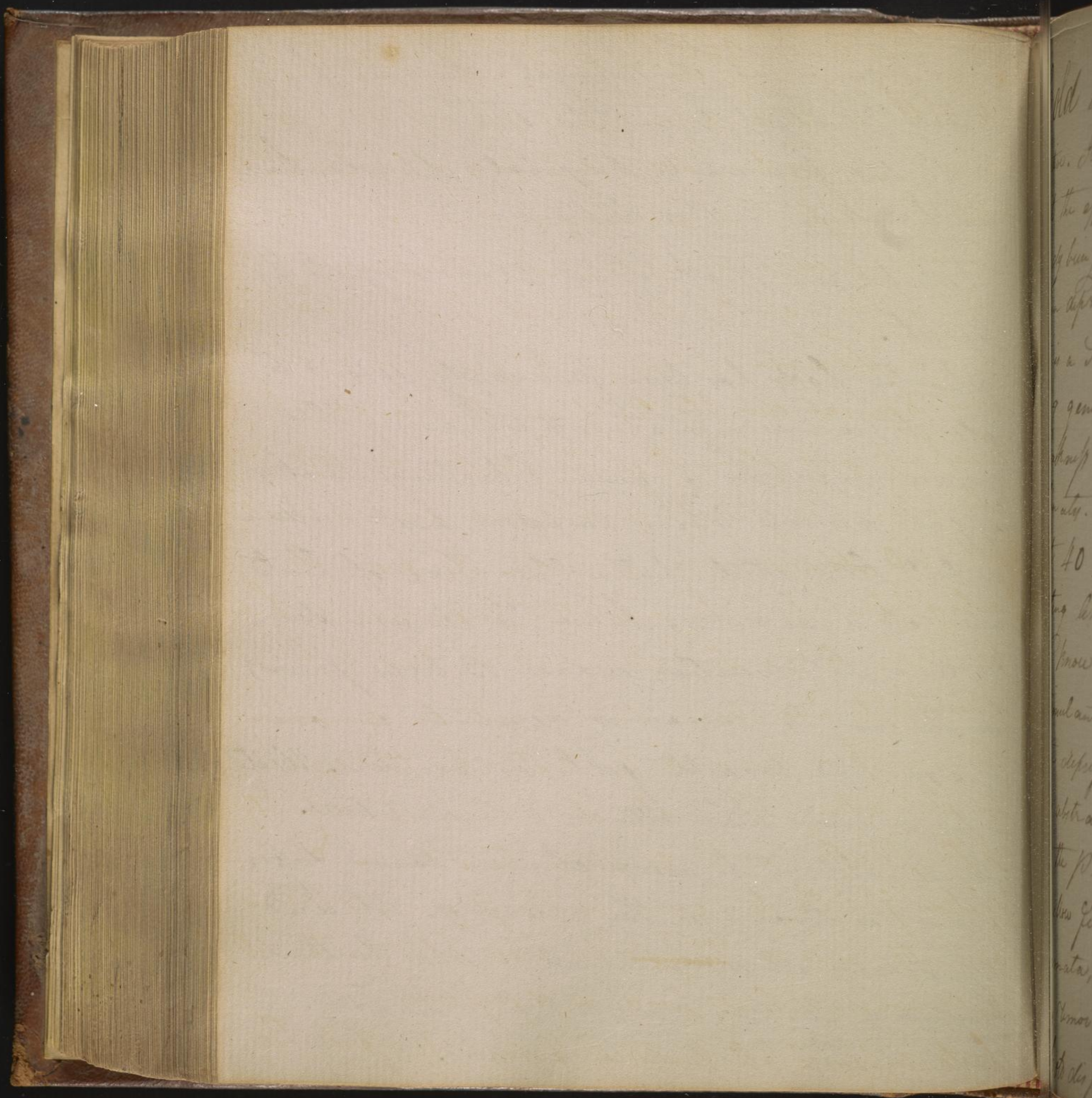
139.
The Plague is a centrifugal disease, hence
Buboes, Eruptions, &c. on the skin.

The Yellow fever is a Centripetal disease, hence
complaints of the Bowels, &c. —

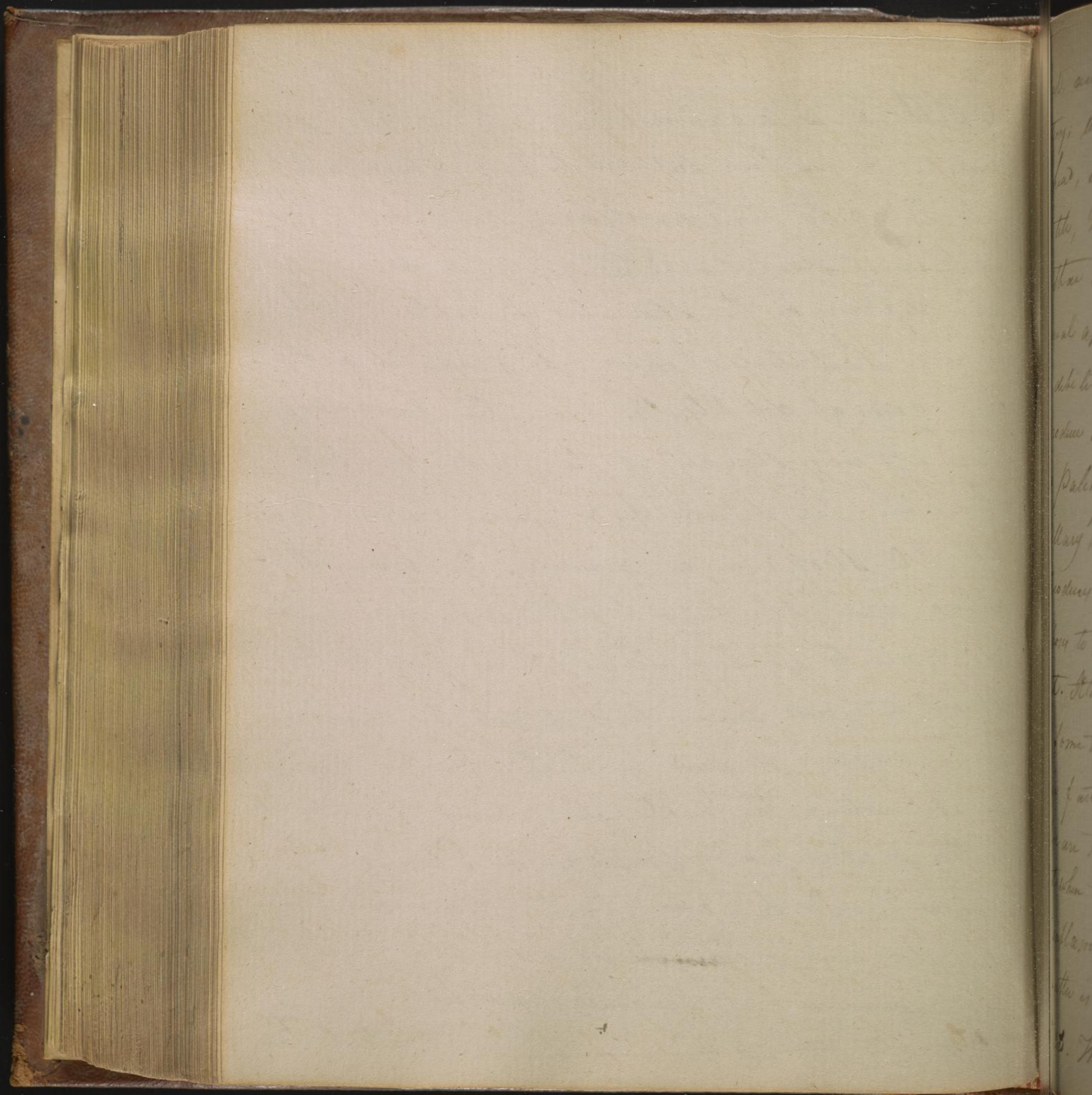
I shall now speak of the relative effects of
Heat.

When the body has been previously exposed to
cold, it produces a greater effect, hence the
common eruption, a green Christmas makes
a fat church-yard. Uniform heat produ-
ces but little effect, but a succession of heat
and cold is injurious, hence the Autumn suc-
ceeding hot weather induces Bilious fever;
in this case the disease is generated in one
Season and brought forth in another. Heat
is less injurious when attended with moisture.

The Inhabitants of warm climates do not suffer
as much as the angry. The diseases of hot and
dry seasons are inflammatory. When the tem-
perature of the air is above that of the body, the
heat of the body will be increased.

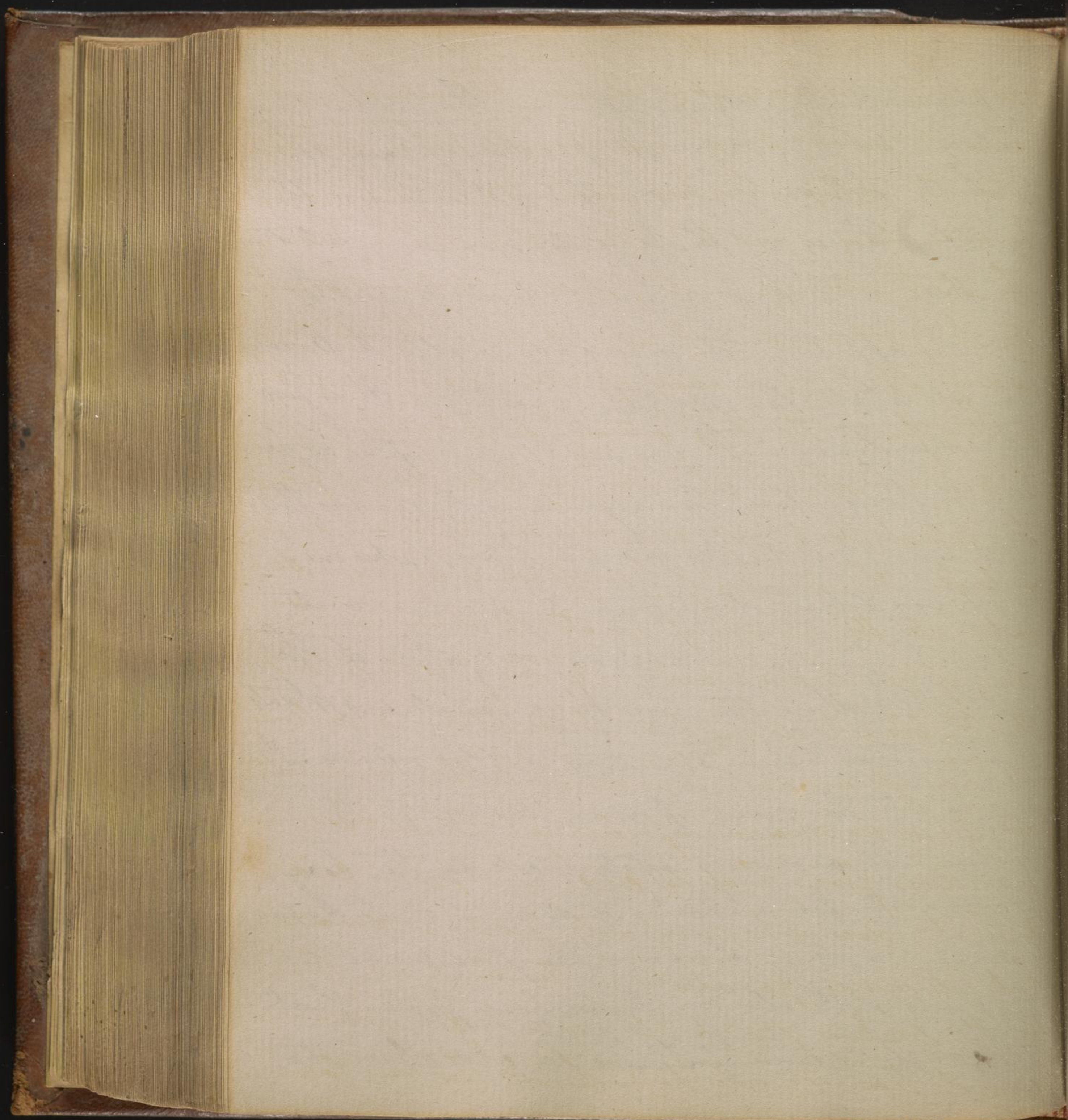


Cold is a negative agent and acts as a se-
 dative. It has been supposed to be a stimulant,
 but the effects that are observed, arise from the
 body being more susceptible of other stimuli,
 when deprived of the stimulus of heat. That
 it is a Sedative. I infer, 1, from its indu-
 cing general debility. 2, from the languor,
 weakness and slowness of the pulse in cold
 climates. The pulse of a Greenlander beats
 but 40 strokes in a minute. 3, from its
 acting like Bleeding & other evacuations which
 we know to be Sedatives. It is said to be
 stimulant and Tonic, but it acts by removing
 the depression induced by heat. In this case
 by abstracting the heat, it relieves the debility.
 Is the pulse low & depressed in the Pleurisy &
 yellow fever? it is caused by the pain and Mi-
 asmata, and is ~~removed~~^{relieved} by blood-letting, this acts
 by removing what produced depression.
 Cold disposes to all kinds of Leucy, it affects the

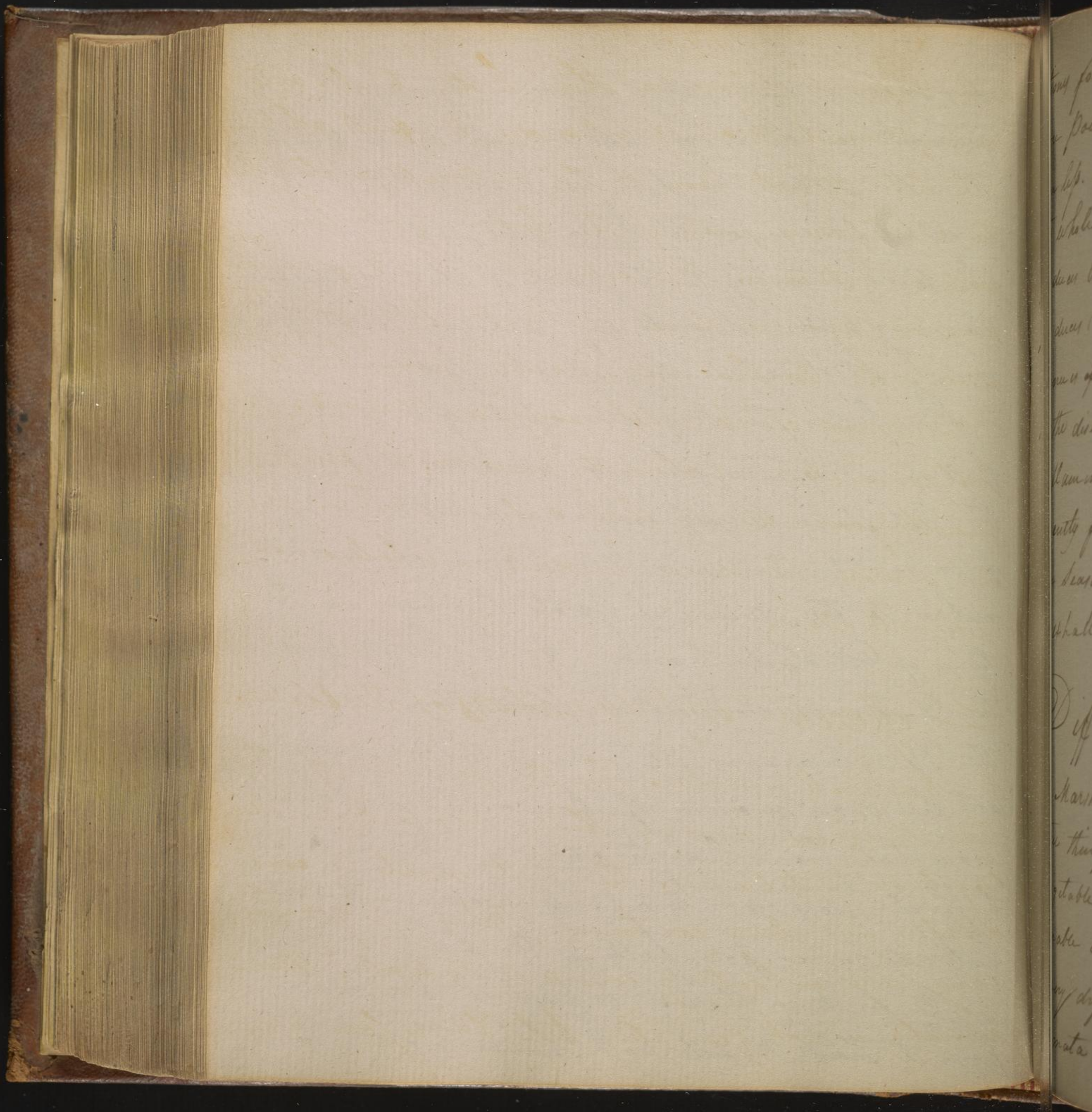


Breast, and produces languor in the voluntary motions; when intense it produces pain in the head, Sleepiness, & death! It increases the appetite, hence a Horse eats more in a cold stable than in a warm one. It weakens the Venereal appetite, it is unfavourable to Virility, and debilitates the mental faculties. It is said to produce Scurvy. It produces Redness after a previous Paleness, hence the degree of cold renders the capillary vessels weak and the blood rushes in. It produces dulness, &c. In a higher degree it disposes to Gangrene or disorganization of the part. It reduces the size of Animals and plants. It sometimes causes old sores to bleed afresh. It is in fact the Cause of most diseases.

These are the ordinary effects of cold on the body, but when it follows Heat, it more readily disposes to inflammatory diseases. The perspirable matter is obstructed by transitions from Heat to cold. The return of Spring in cold climates



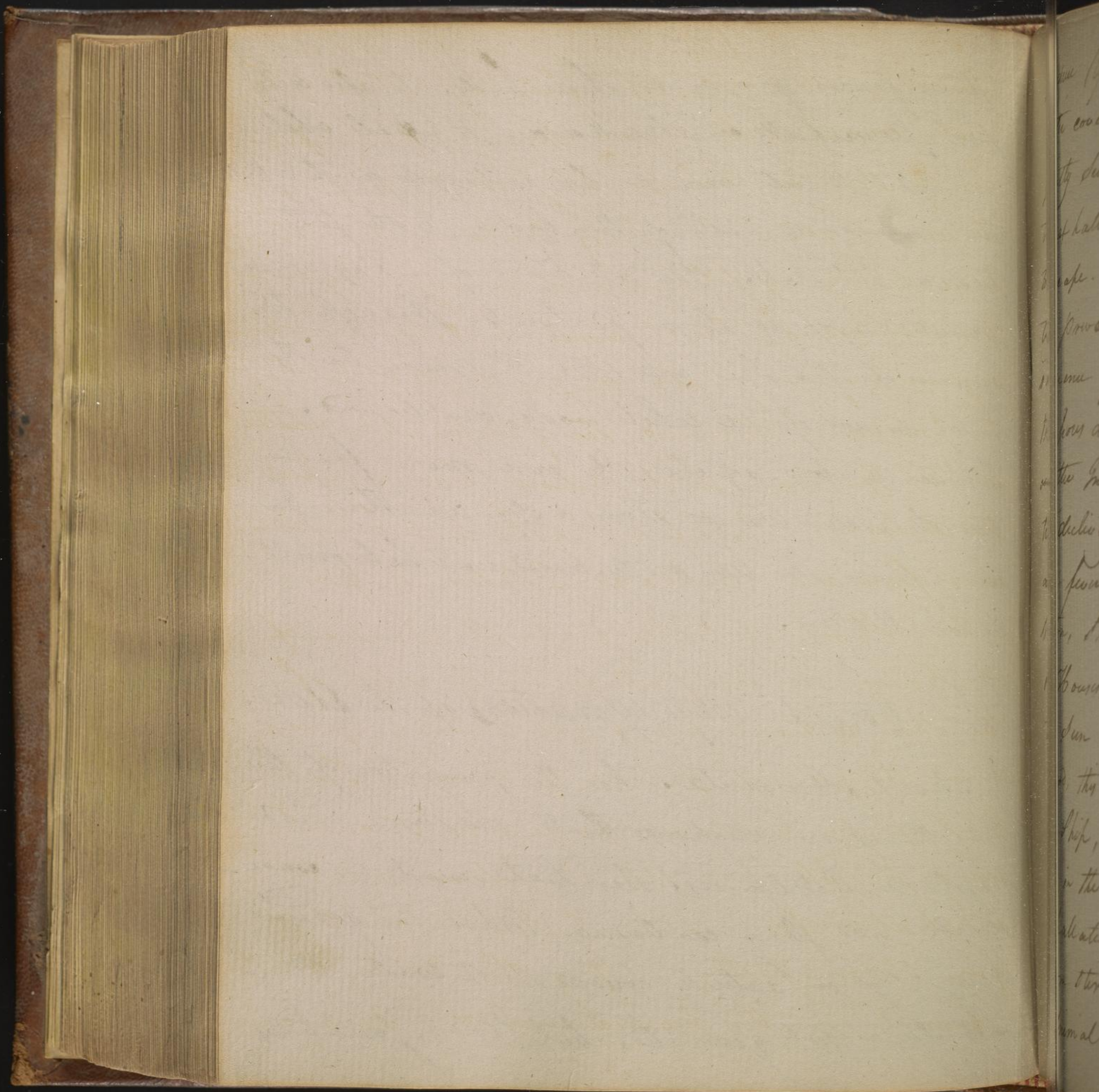
disposes to inflammatory diseases. Diseases are generated in one season and brought on in another. When the system has been prostrated a long time by cold, being exposed to heat will produce a Fever. The short action of heat produces Cholera Morbus, the long action, scarcely any disease. Heat succeeding short applications of cold, produces inflammatory fever, the long action of it, Gangrene. Cold in Northern climates produces disease from the Inhabitants not conforming to it in point of dress. The Diseases of Pennsylvania are now similar to the diseases of Great Britain in the time of Dr. Sydenham. If the people beyond the Potomack do not bear blood letting as well as the Pennsylvanians, it is owing to their indolent and luxurious manner of living. A sudden transition from heat to cold, and from cold to heat, does not necessarily produce disease. Cold acts more powerfully in the sleeping, than in the waking state. old people suffer more from it than middle aged, hence they are some-



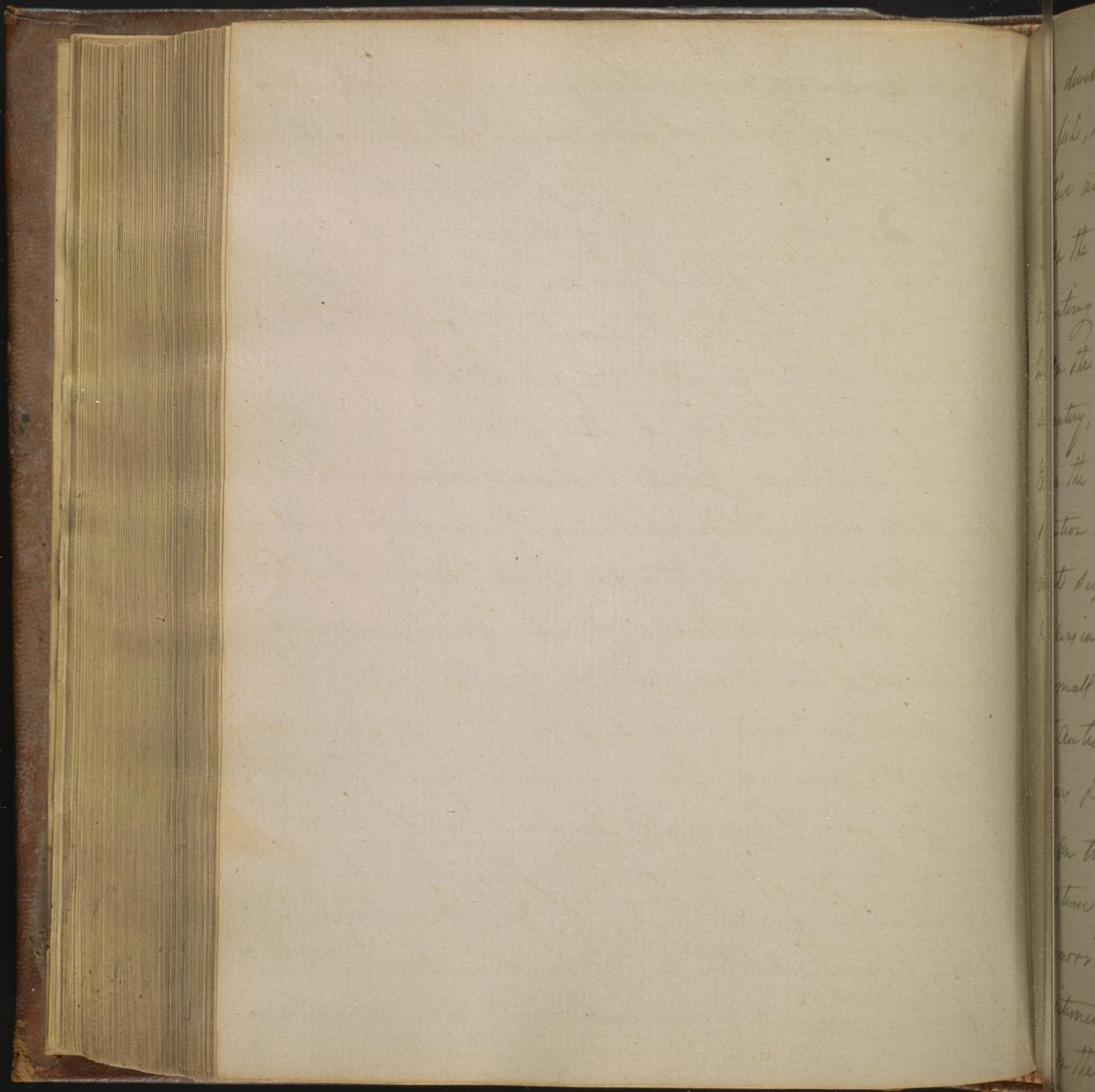
times found frozen in their beds; it also acts more powerfully on drunkards. It affects children less. It acts more or less certainly as it affects the whole or a part of the body. Cots feet produces Battarck. The cots hand of a Physician produces Rigor in some patients. Through the avenues of the Feet and Mouth, nine tenths of the diseases of the whole body, are received. Inflammatory affections, &c. arise more frequently from windy than calm weather. In one season the Air is considered unwholesome by exhalation.

Different impregnations of the Air.

1. Marsh Miasmata. For the production of this three things are necessary, Heat, Moisture, and Air. Vegetable Substances; the Heat must be considerable and long continued. When the ground is very dry or entirely covered with water, Miasmata is not generated, but Rain, sometimes



produce Yellow and other fevers, by agitating the water covered with a green scum which is frequently seen on ponds, the pellicle confines the exhalation, but being broke suffers it to escape. Dry fitts does no injury. Dysentery prevails on the summit of hills, in consequence of a greater degree of cold obstructing the pores and throwing the perspirable matter on the Intestines; while Bilious fever occupies the declivity. Putrified Vegetables which produce fever are, Cabbages, Potatoes, Coffee, Cotton, Straw, old books, Paper, &c. Timber of old Houses, the logs putrify by the action of the Sun without, and of fire within, green wood, this produces Intermitting, green Timber of a Ship, &c. Fever is also produced by stagnant air in the hold of a ship, in cellars, and by exhalations from Docks, Gutters, &c. also air from stirring water in Hog-sties, Duck-ponds, &c. Animal matters producing it are, dead bodies



near dwelling Holes, Locusts, Saw Hides, Parted fish, &c. On what parts of the body do they act?

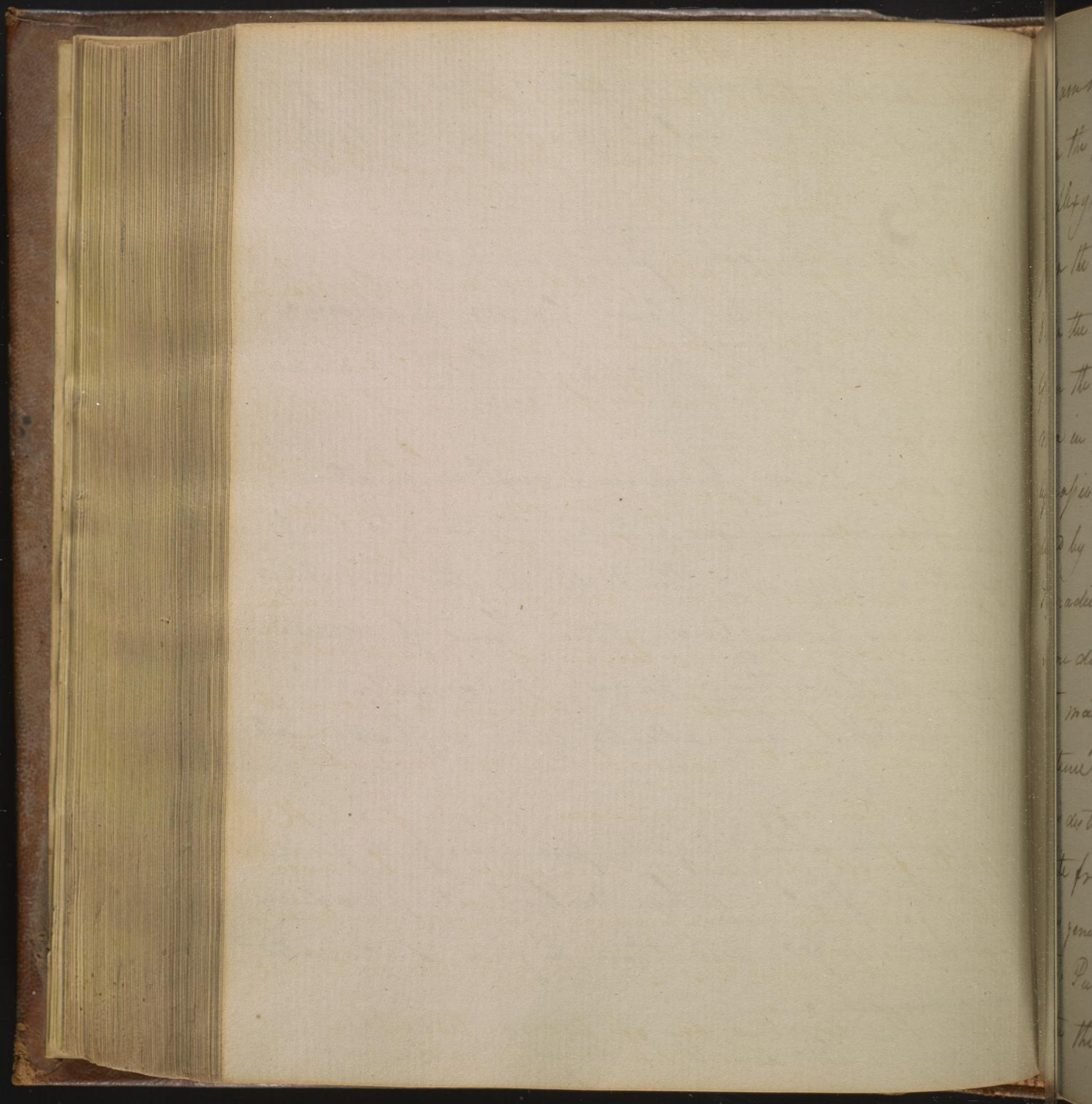
1, on the Stomach, producing sickness, vomiting, and in some cases Influenza.

2, on the Bowels, producing Colic, Diarrhea, Dysentery, &c.

3, on the Liver, producing inflammation, surtion & excretion of Bile, suffocated excitement suppressing the Bile, &c. this last often happens in yellow fever. The Livers of domestic animals breathing Marsh Miasmata in the autumn, are affected with inflammation & ulcers &c. —

4, on the blood Vessels producing a full and tense pulse, when violent it produces Hemorrhage, and still higher, suffocated excitement.

5, on the Brain & Kidneys, producing



inflammation, Congestion, &c.

6. On the Nervous system, producing Palsy, Apoplexy, Mania, &c.

7. On the Lymphatics, producing Swelled glands.

8. On the Skin, producing Eruptions.

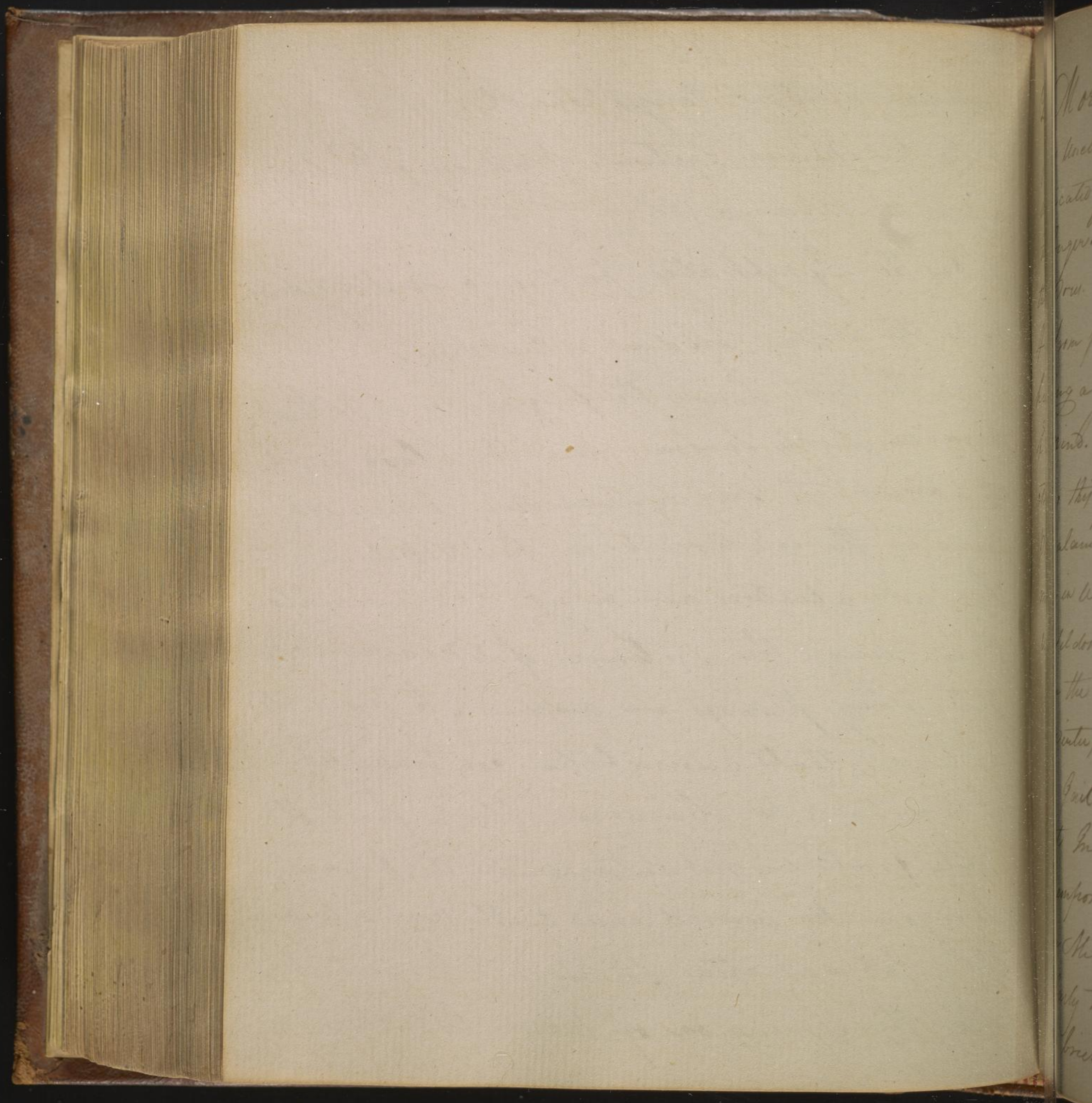
9. On the Eyes, Hence the frequency of Ophthalmia in sickly seasons, here the blood is who-ly passive, its size appearance being produced by the excitement in the vessels.

Sporadic affections are owing to Miasmata.

Some deny the existence of Miasmata, but many proofs are adduced, to prove its existence, that cannot be controverted.

It is destroyed by Hurricanes, black frosts, &c.

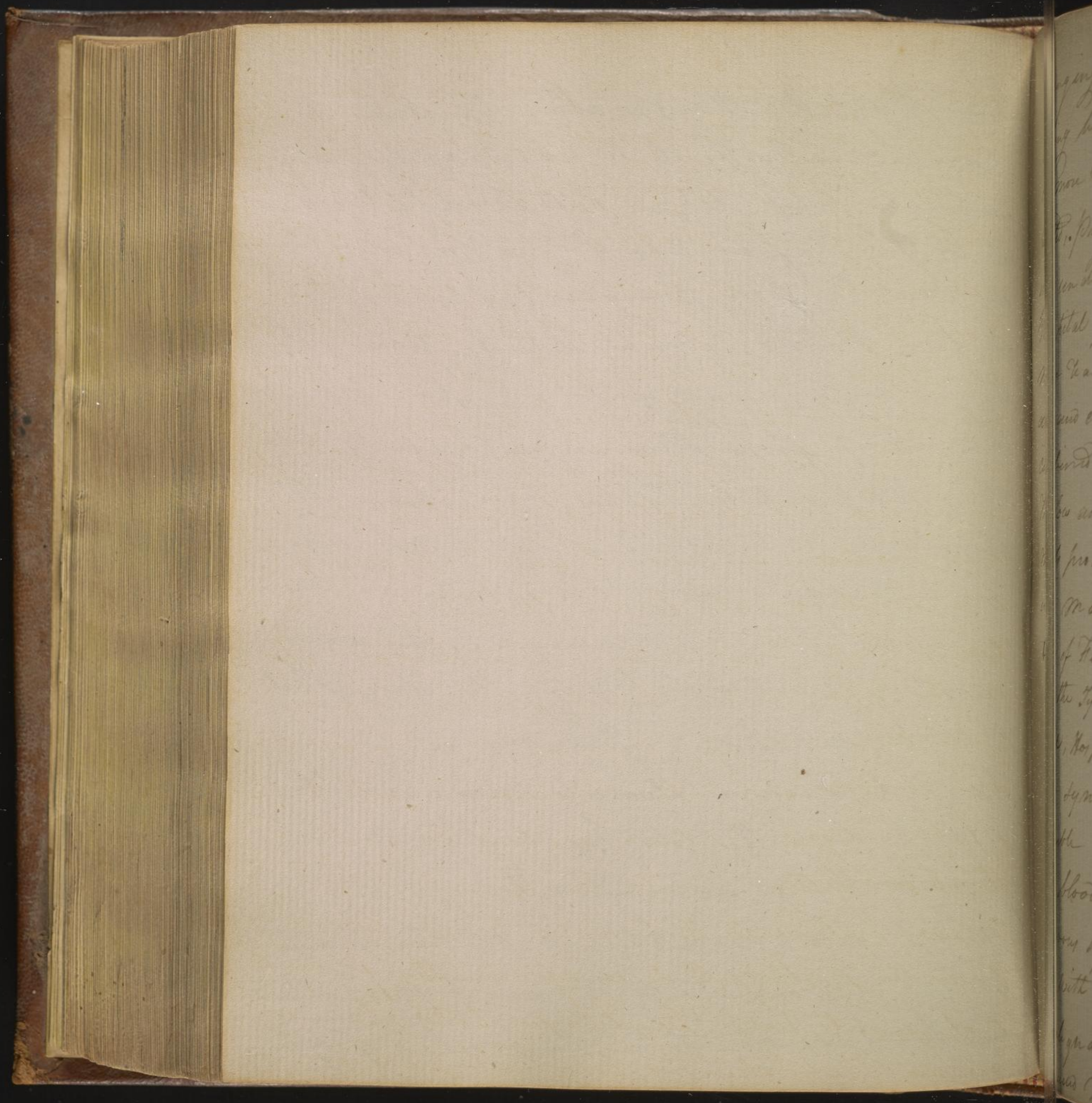
White frost does not exterminate it, because it is generally accompanied with warm weather. Putrid matters should not be disturbed after the coming on of warm weather.



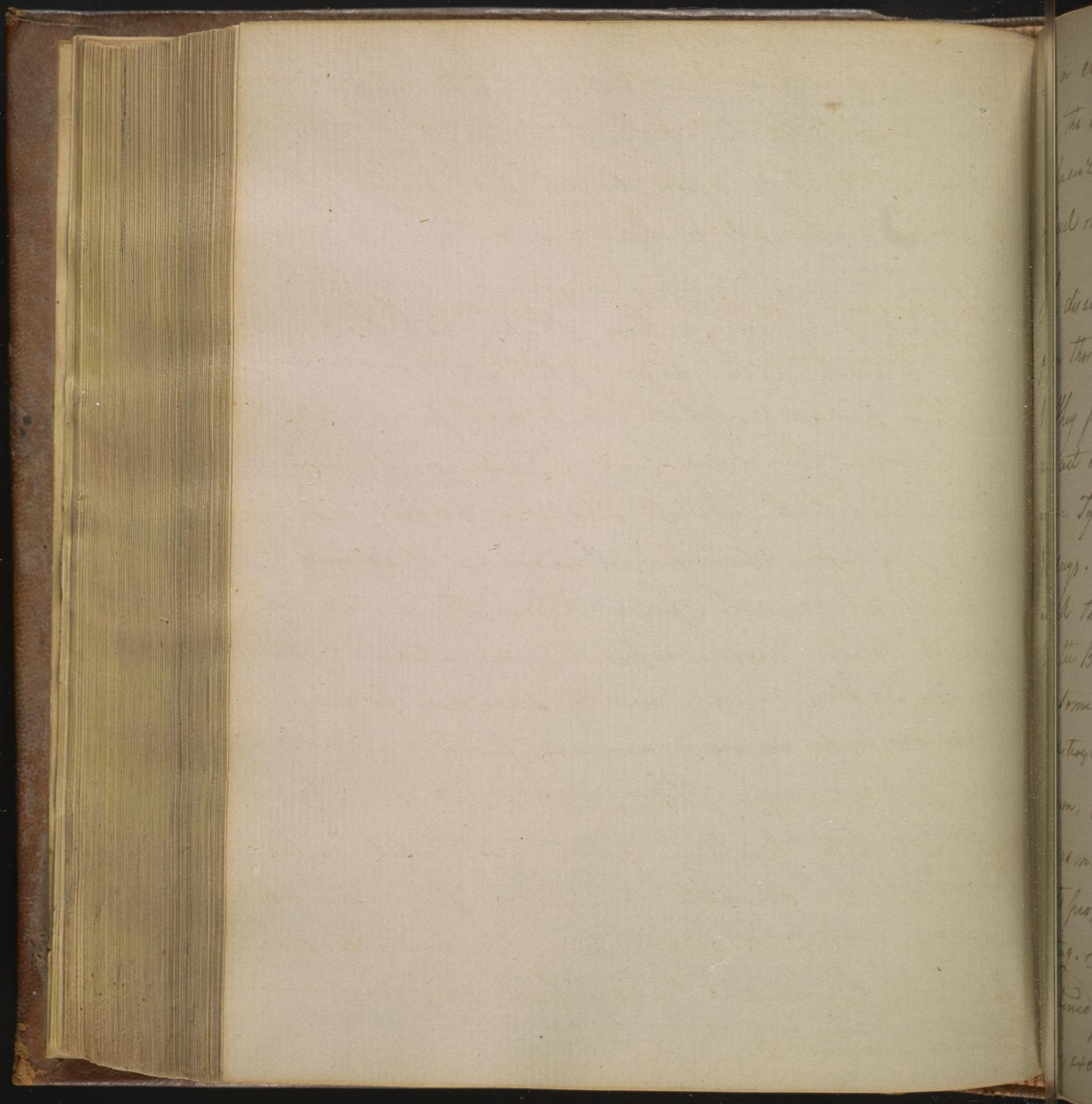
De Morbid Miasmata. This arises, 1, from uncleanliness, it is most readily communicated from linen, but wool retains it longer. 2, from Crows, and discharges through the pores. 3, from living on vegetable diet. 4, from putrid Animal diet. 5, from not having a sufficiency of diet. 6, from depression of mind. 7, from strangers mixing with each other, this produces Typhus Feur, hence its prevalence in war. This Feur is most common in winter. During the American War we seldom saw it in summer; this arises from the practice of keeping the doors shut in winter, and open in summer.

The Gail Feur is scarcely known in the West Indies, the Air neutralizes it, and if imported, gradually diminishes it.

These Miasmata adhere to clothes, particularly to wool and cotton, also to wood, stone and brick walls, hence the necessity of often



hanging cloths and bed furniture, and
 placing beds in the middle of rooms. They
 act more readily upon bodies previously debi-
 litated, pregnant women, and those labour-
 ing under inflammation. It, escape the
 Hospital fever during these states, but take it
 more readily afterwards. They act more rea-
 dily and certainly when grief and fear are
 combined, the body being then by debilitated.
 The low and bad diet of Ships and other Ani-
 mals produce disease. Canine Madness
 is a malignant fever. What is the na-
 ture of Fevers produced by Miasmata? They
 are the Typhus mition, Low & Slow nervous fever,
 Jail, Hospital or Ship fever, all of which terms
 are synonymous. These Miasmata act 1, in
 a subtle degree, seldom exciting the pulse to
 the blood letting point, 2, They affect the
 nervous system with tremors. 3, the lymphatic
 system with swellings, & some assume the form of
 malignant fevers. The Plague takes place in
 crowded Hospitals. They sometimes produce Dysen-

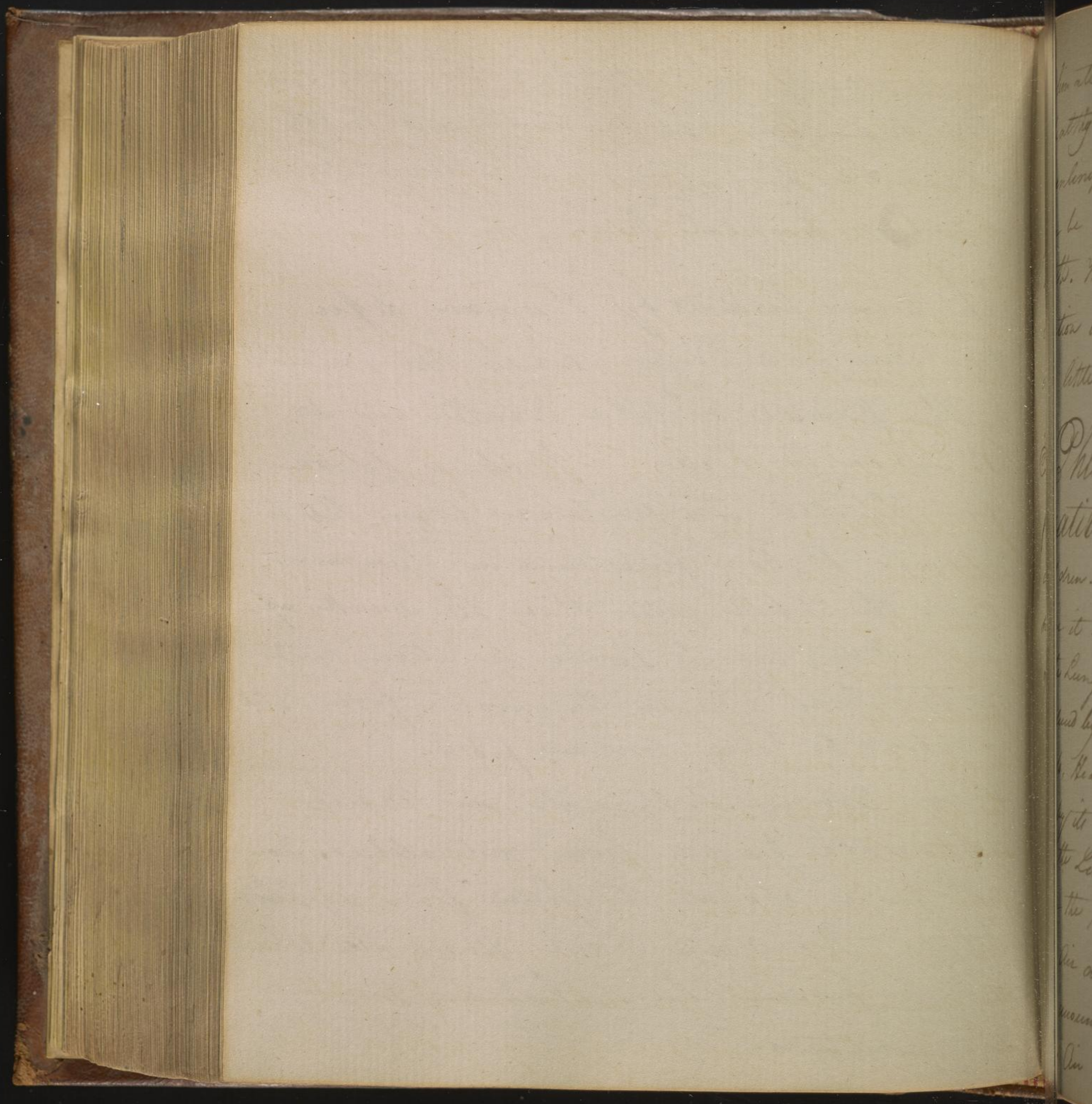


try in crowded ships, at others, Survey. Sometimes, the Seldom, Intermittent, and lastly Influenza, this appears to be a lower degree of Jail or Hospital Fever.

The diseases produced by Human, differ from those produced by Marsh Miasmata.

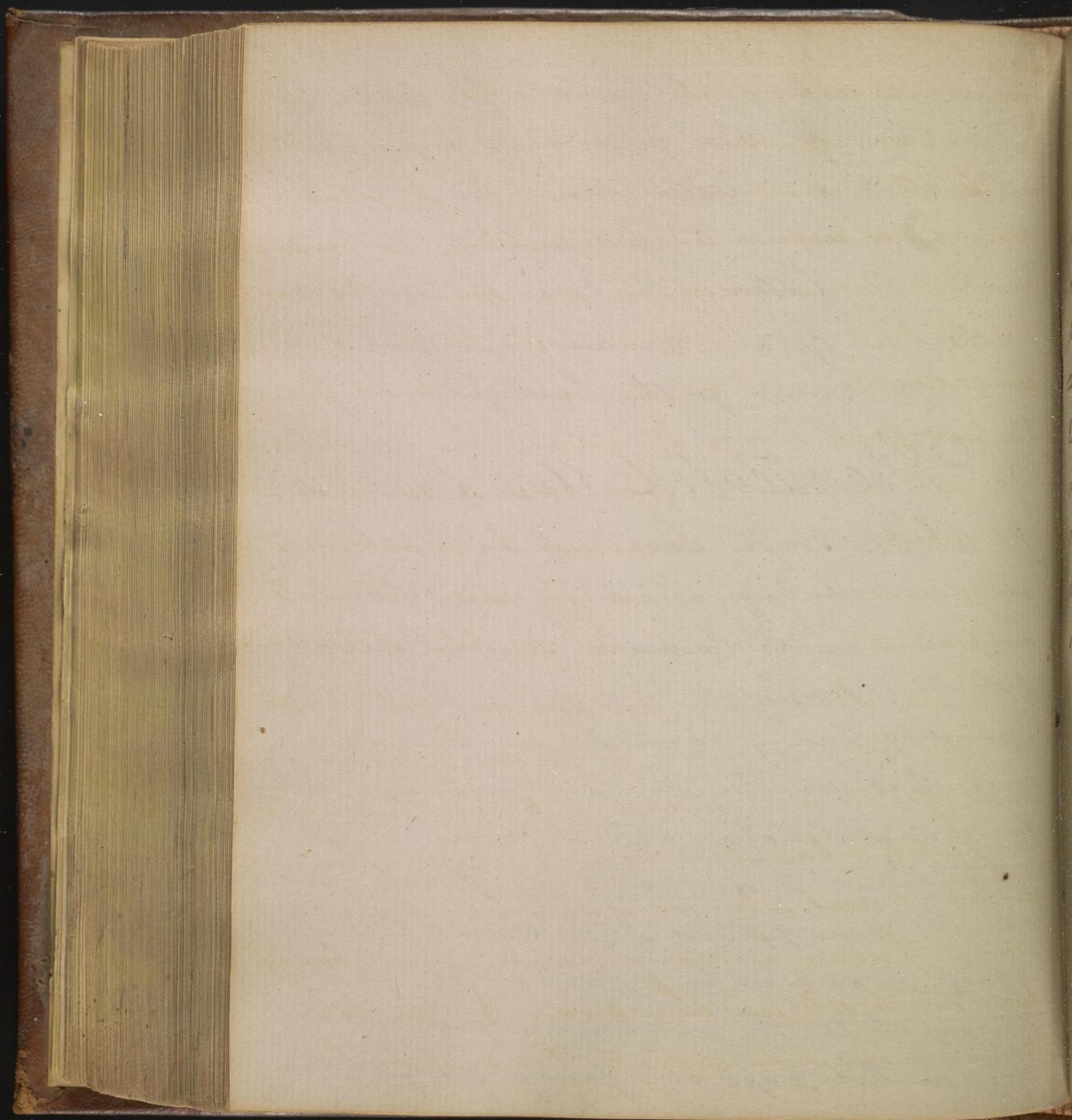
1. They prevail in cold weather and do not act on the Bile, the pulse is seldom above Typhoid, they continue from 20 to 30 days. Bilious fevers occur in summer, attack the robust rather than the weak, affect the Bile, are of shorter duration, yet they sometimes assume the chronic form, and are destroyed by heavy rains and frosts.

Opium, Corrosive Sublimate, and Marsh Miasmata produce fevers just alike. Robust people obviate the yellow fever by blood-letting. Morbid and Marsh Miasmata when combined produce fevers which are propagated by exertions.

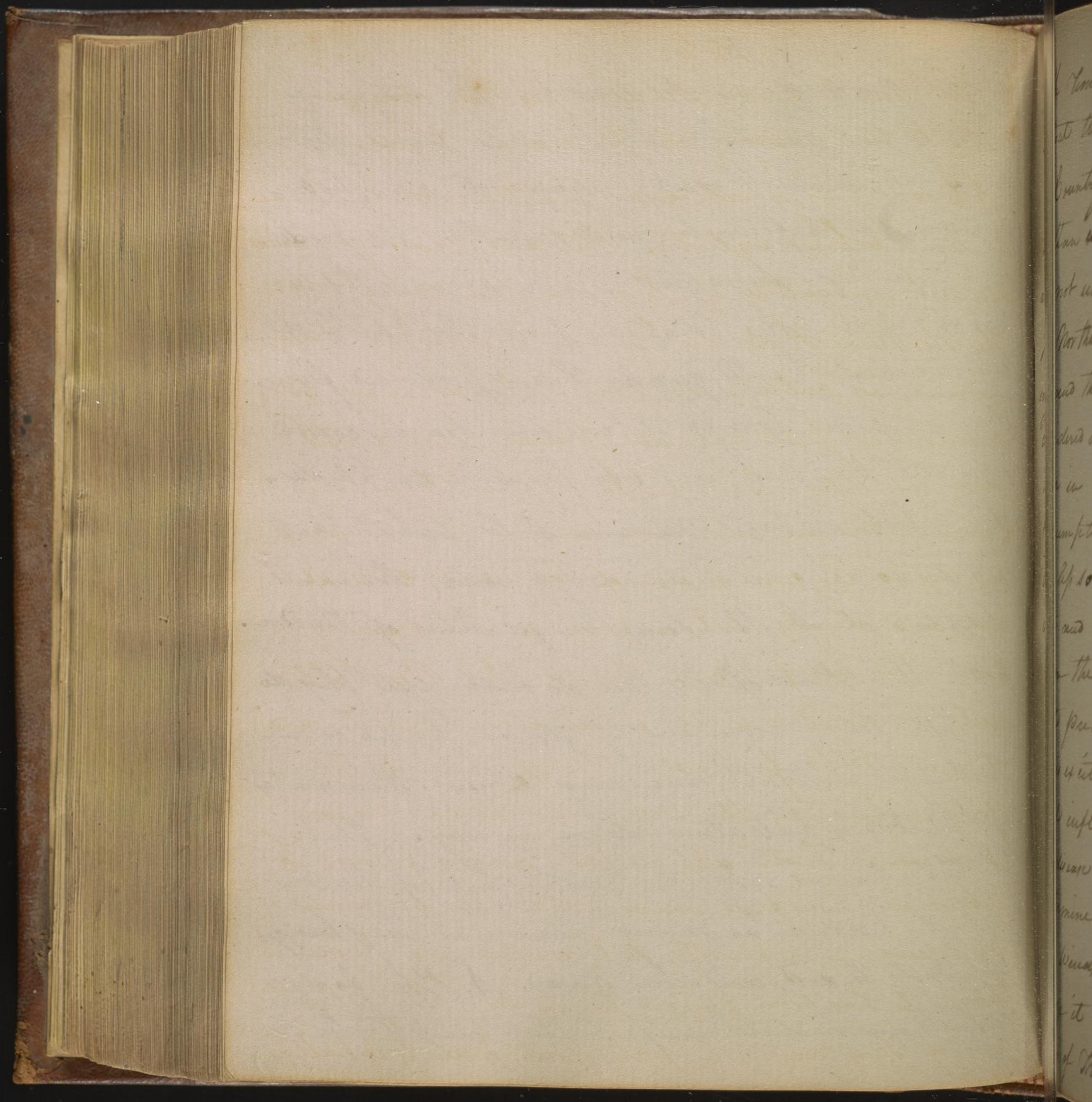


No climate whether hot or cold is necessarily unhealthy. If more attention was paid to cleanliness and cultivation, Fevers would soon be exterminated from the face of the earth. The latter is the cause of their deprivation in Great Britain, and Gail fevers are little known in this country.

3. Phlogisticated Air from Respiration. This sometimes affects school children. Epilepsy attacks in crowded houses, hence it is called Company disease. Diseases of the Lungs originate in crowds. This Air is produced by burning Charcoal, and induces epidemics, Head-ach, &c. Air is also rendered unhealthy by its combination with Sulphur, this acts on the Lungs producing Coughs, &c. also, Air from the manufactories of Arsenic and Sulphur, and Air discharged by plants in the night, this accounts for the unwholesomeness of night air. Air that passes over stinking ground, this



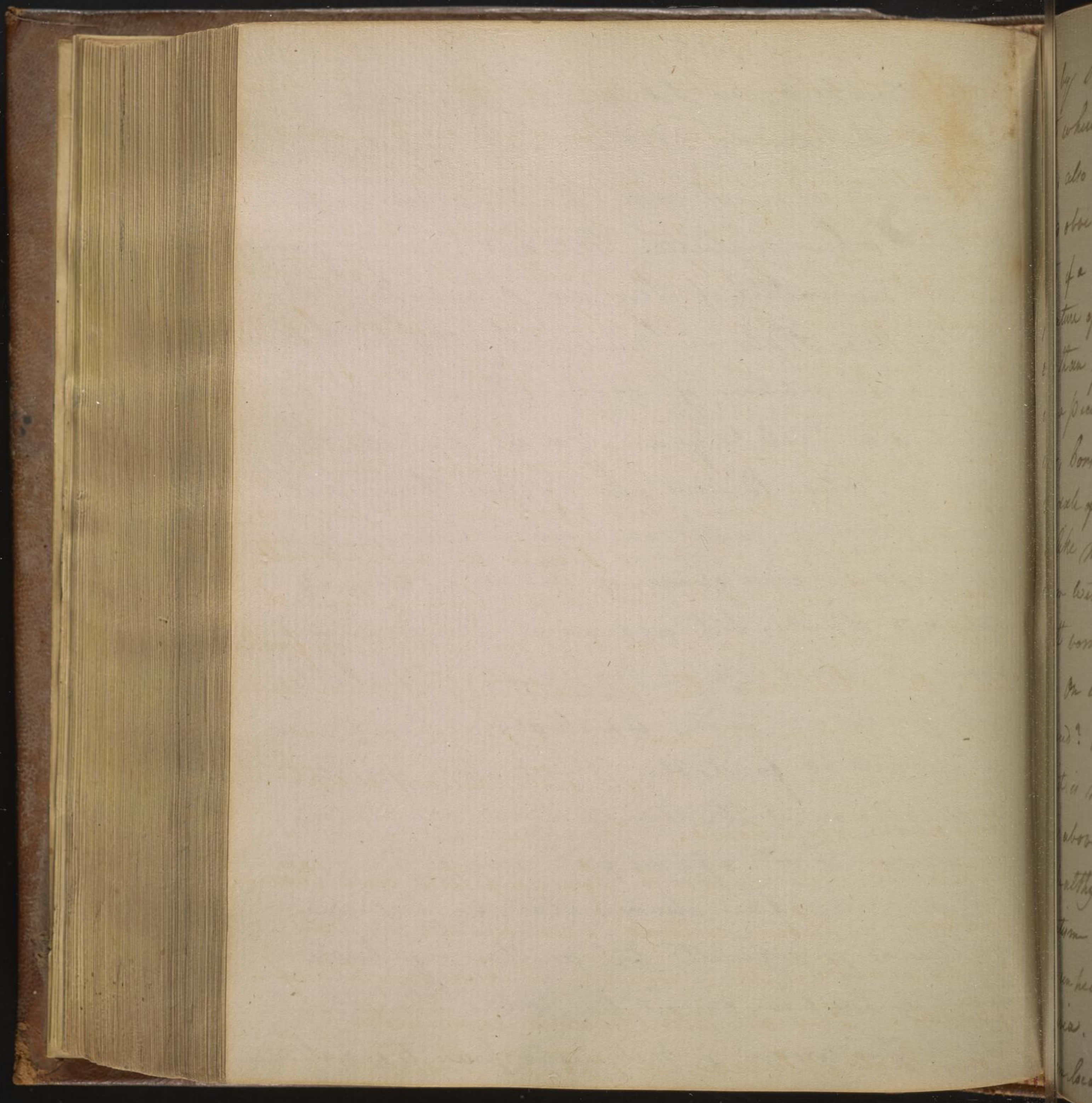
does not produce violent diseases. The air of a certain Cave, mentioned by Bruce, proved destructive to all animals except man, its temperature - sometimes was confined to moist weather, it produced a prickling sensation in our skins, this was probably fixed Air. Vapours from the earth in consequence of Earth-quakes have produced fever. Vapours from Springs at certain Seasons contaminate the Air, and once produced an Epidemic which destroyed numbers of the inhabitants contiguous to it. Air superoxygenated, this exists in dependence of the sensible qualities of the Air. Altho' these States of the Air do occur, yet they do not put the prevention of diseases beyond our reach, for without concurring Causes, Miasmata and Putres of halcations do no injury. There are two reasons why the constitution of the Air does not produce as many diseases, as the changes from hot to cold, and vice versa. 1. The body cannot accommodate itself to these vicissitudes.



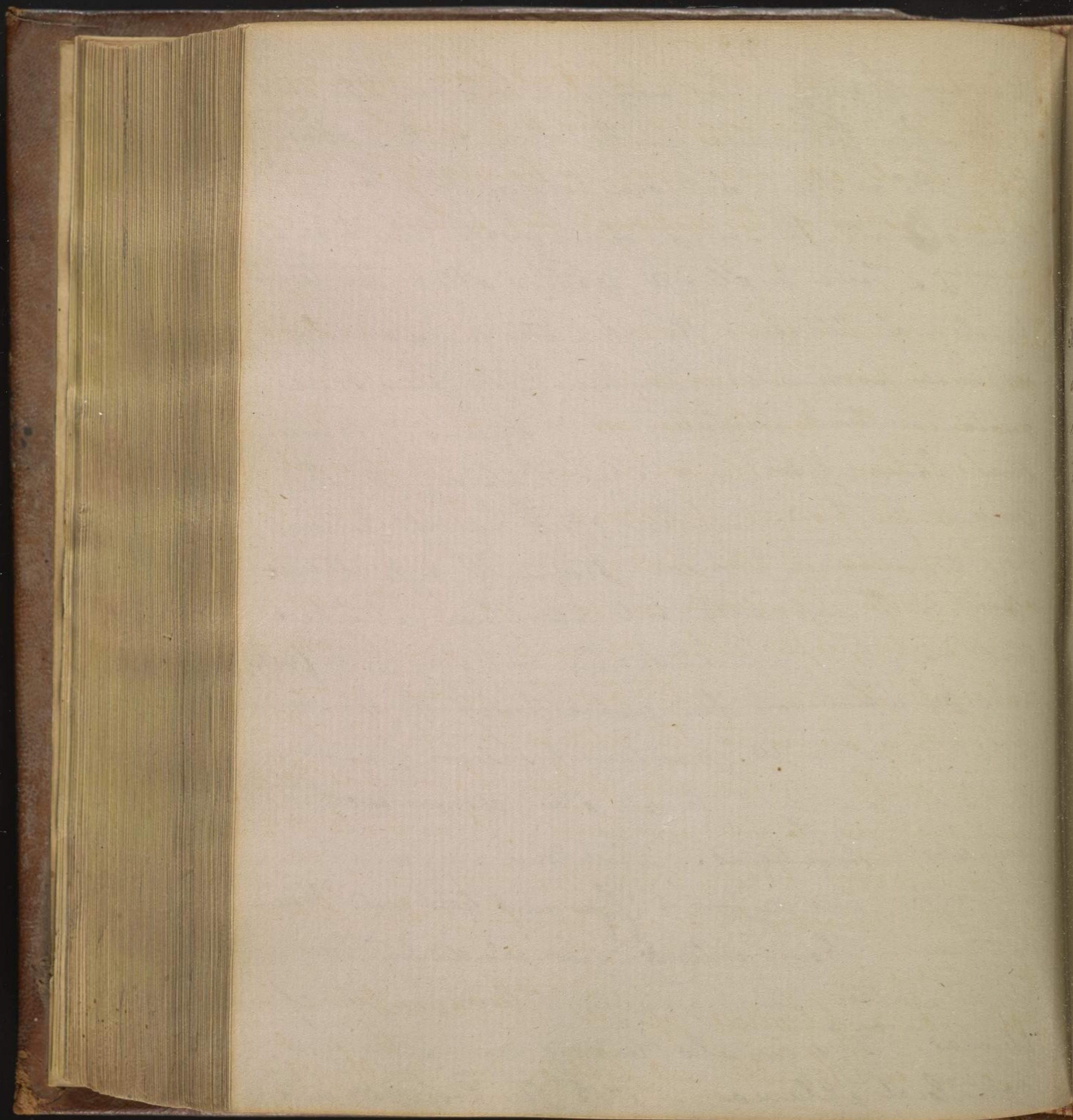
2. The Comets causes seldom produce disease, without the exerting at the same time.

A Country is much more healthy when cultivated, than when neglected. Wet and Marshy grounds are not unhealthy if they are shaded by trees.

The Northern States are rendered healthy by draining and the culture of Grass. Towns may be considered as jails & grave-yards. Most deaths occur in Cities. Bilious and Typhus Fevers, and Consumptions are most common in Towns, Dysentery less so in consequence of the use of cordial diet and drinks, but appears in the country from the use of Mush & Milk, &c. Vegetable diet predisposes to it, exhalations cause it, and it is excited by fruit, &c. The nature of the Soil influences the air, a sandy one disposes to disease. Frost appears first among pines. To determine how far Miasmata can be carried by winds, is difficult, but within my knowledge it has been carried ten miles. The planting of Trees around a mile pond, prevents exhalation.



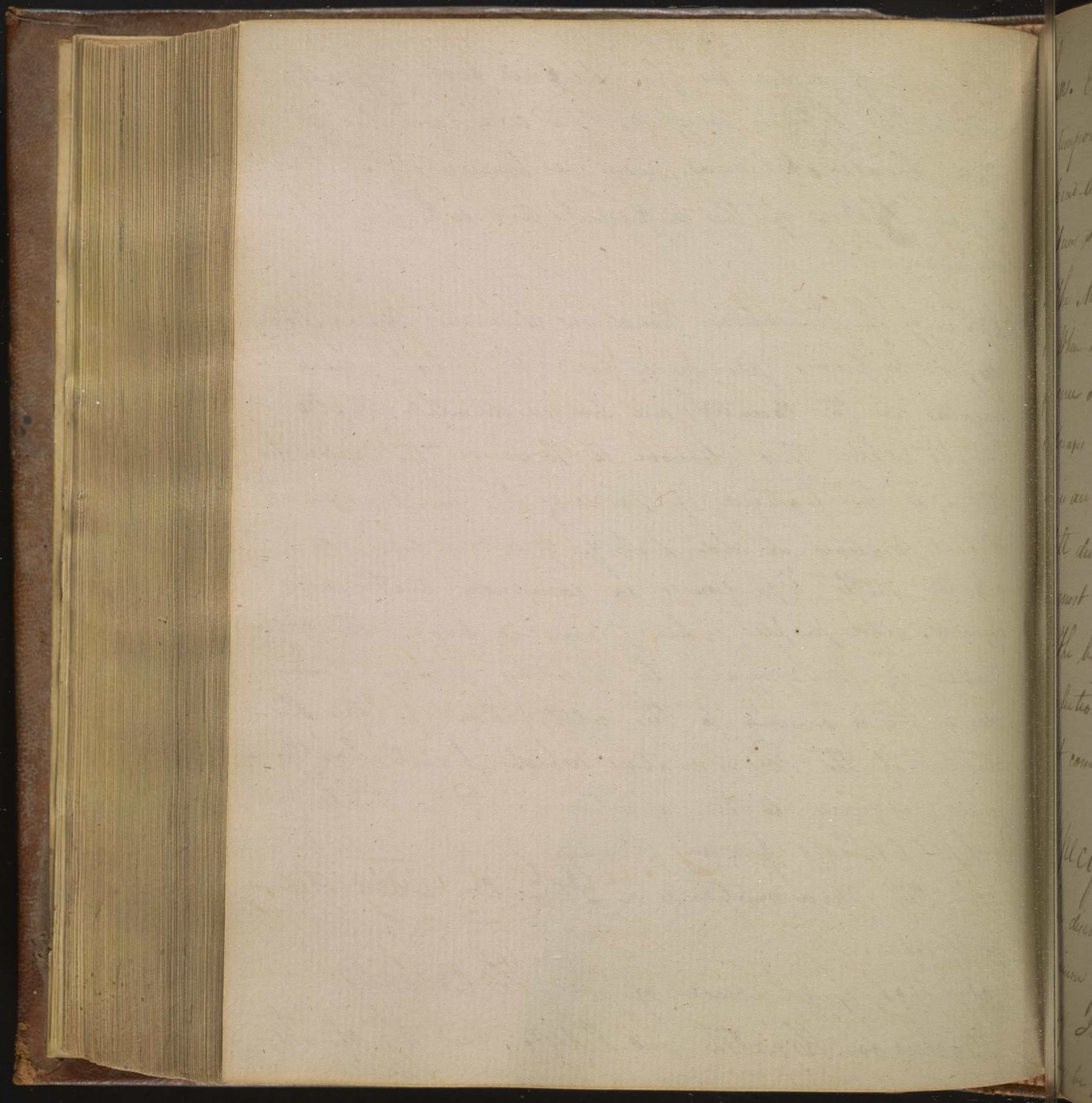
tions, by shading the edges, which are the only parts when the action of the Sun could produce them; also a skirt of woods between the house & pond obviates the origin of disease. The vicinity of a Town to cleared ground alters the temperature of the air, the climate is much less cold than formerly. The air of the Sea shore is of a peculiar nature, it is injurious to asthma, Consumption, and Rheumatism. In the middle of the Ocean these effects are not perceived; in like manner I have stayed in a patients room with impunity, but have been attacked with vomiting immediately on going into fresh air. On what does the unhealthiness of sea air depend? Not on its moisture & saline nature, for it is medicinal to all other diseases except those above mentioned. Residence in fells is unhealthy, and disposed to Consumption and Rheumatism. Houses entirely surrounded by trees are unhealthy, this is ascribed to their night effluvia. They are also rendered unhealthy by some local effluvia; in 1715 the Proprietary and



Students of Cambridge suffered from Dysentery, while the citizens escaped, this was ascribed to some local effluvia near the University. Thus I have spoken of the different air which produce disease.

3. Change of situation produces disease, Migration disposes to fever, persons exposed to malarious miasmata in the country, are immediately affected thereby when they remove to town; the cause of this is, 1. the fatigue of moving. 2. the amusements, &c. Natives of old sickly countries are not affected with Epidemics in common with new comers. Old people when removed from the operation of miasmata to healthy places soon die; this is owing to the abstraction of the stimulus of the miasmata which habit has considered necessary to their existence. Plants also die when removed from marshy places, in both cases the miasmata is a stimulus which supports life.

4. of the influence of the Heavenly Bodies on Health and Life; and 5. of the



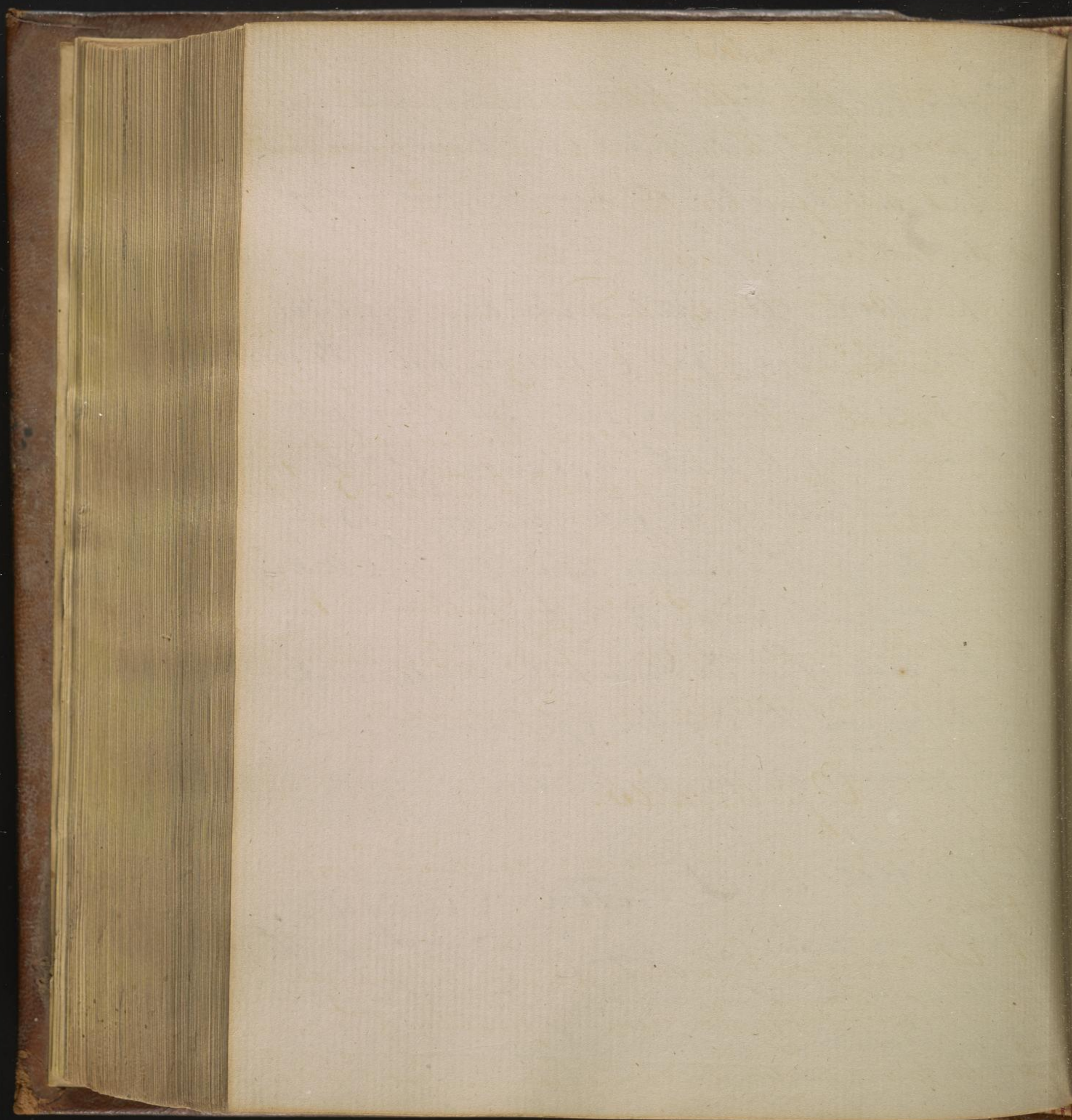
Sun. Excess of light produces diseases of the Eyes and temporary blindness. I have known two Cases of Head-ach beginning at Sun rise and ending at Sun Set.

2. *The Moon.* This affects water, Air, Vegetables, &c. When the Moon is full Oysters are fat. Its influence on health is not felt, but Paroxysms of diseases alternate with its changes; Parturition is accelerated by its full; and most Pain is felt during its increase. Epilepsy and Worry are most troublesome at its full.

3. *The body feels the Diurnal and Annual Revolution of the Earth.* Epilepsy, &c. are most common at the Equinoxes.

Specific or Secreted Contagion.

Those diseases which are propagated through the Medium of the atmosphere are said to be produced by Infection. The Small pox, Measles, &c. may be propagated by contagion. The Influenza



ing arise from the atmosphere; The Itch, Ring worm, and the Venereal disease, by contact.

Thus I have finished the Diseases arising from morbid matter, I will mention the manner in which contagion is communicated; and,

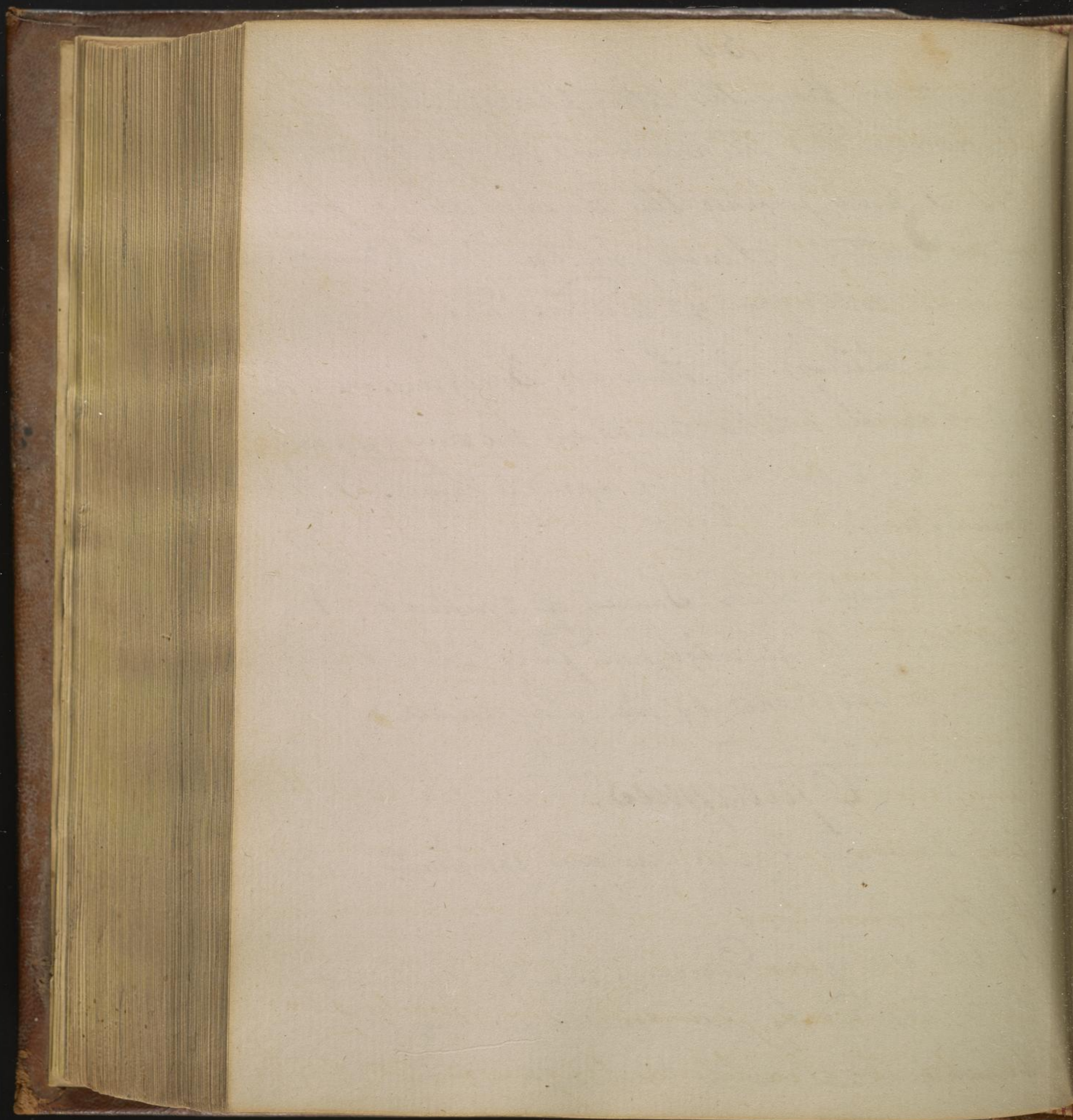
1, by the Lungs. 2, Saliva. 3, Nerves. 4, Skin, but I doubt whether contagious produce disease when the skin only is exposed to them. 5, by Inoculation.

There are two other Sources of Epidemics, 1, bad water, 2, unwholesome food; these should never be overlooked by the Physician.

Epidemics.

The laws of Epidemics are connected with facts.

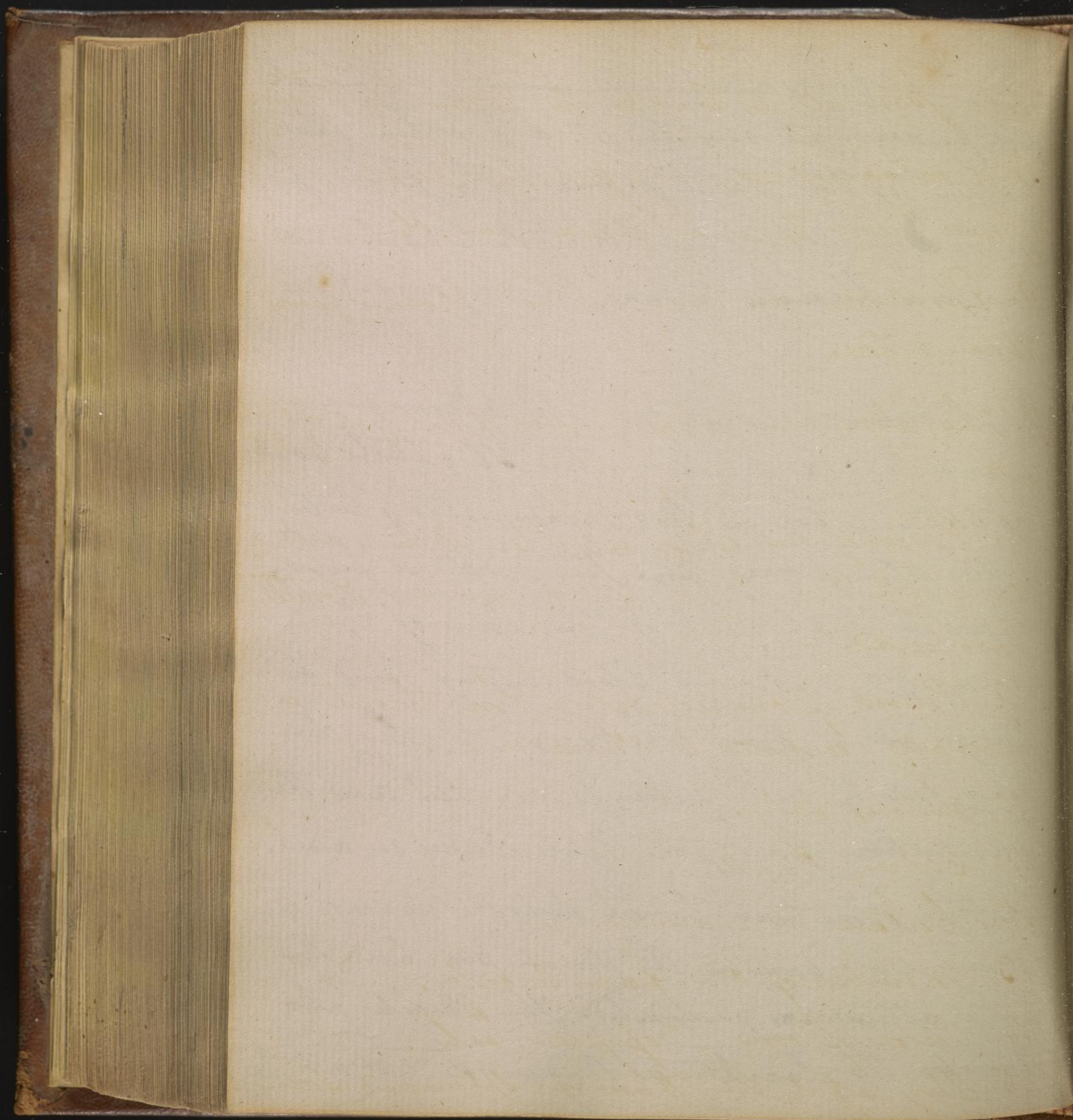
- 1, All contagious Diseases, except Influenza, are influenced by the sensible qualities of the Air.
- 2, No two Epidemics can exist in the blood.



Occurs at the same time, hence the Small
pox predominates over the Measles when they
happen in the same place. The fevers of
our Autumn were marked with *Scarlatina*
anginosa, because it was the reigning Epi-
demic.

3. Epidemics prevail in the atmosphere:
during the camp fever, the slightest wounds
excited the action of the Miasmata floating
in the atmosphere, and thus produced fever.
Under the influence of this law of Epi-
demies, I prescribed blood-letting and a
purgative, for a man who broke his leg du-
ring one of our Yellow fevers, this was the
foundation of a report that I was insane.

4. They sometimes banish Superior diseases, the
Measles first banished the Small pox, but the
latter afterwards prevailed. The Measles also
banished the *Scarlatina Anginosa*, nor did the



latter prevail, as long as the former continue.

5. Contagious do not affect all people,
Some never take the Small pox, &c.

6. Epidemics are more violent some years
than others.

7. They sometimes affect persons of one country
only.

8. Persons of one colour only; the Blacks are
scarcely affected with the Yellow fever in South
Carolina.

9. Persons of one age only; Sore throat is
generally confined to children.

10. One Sex only.

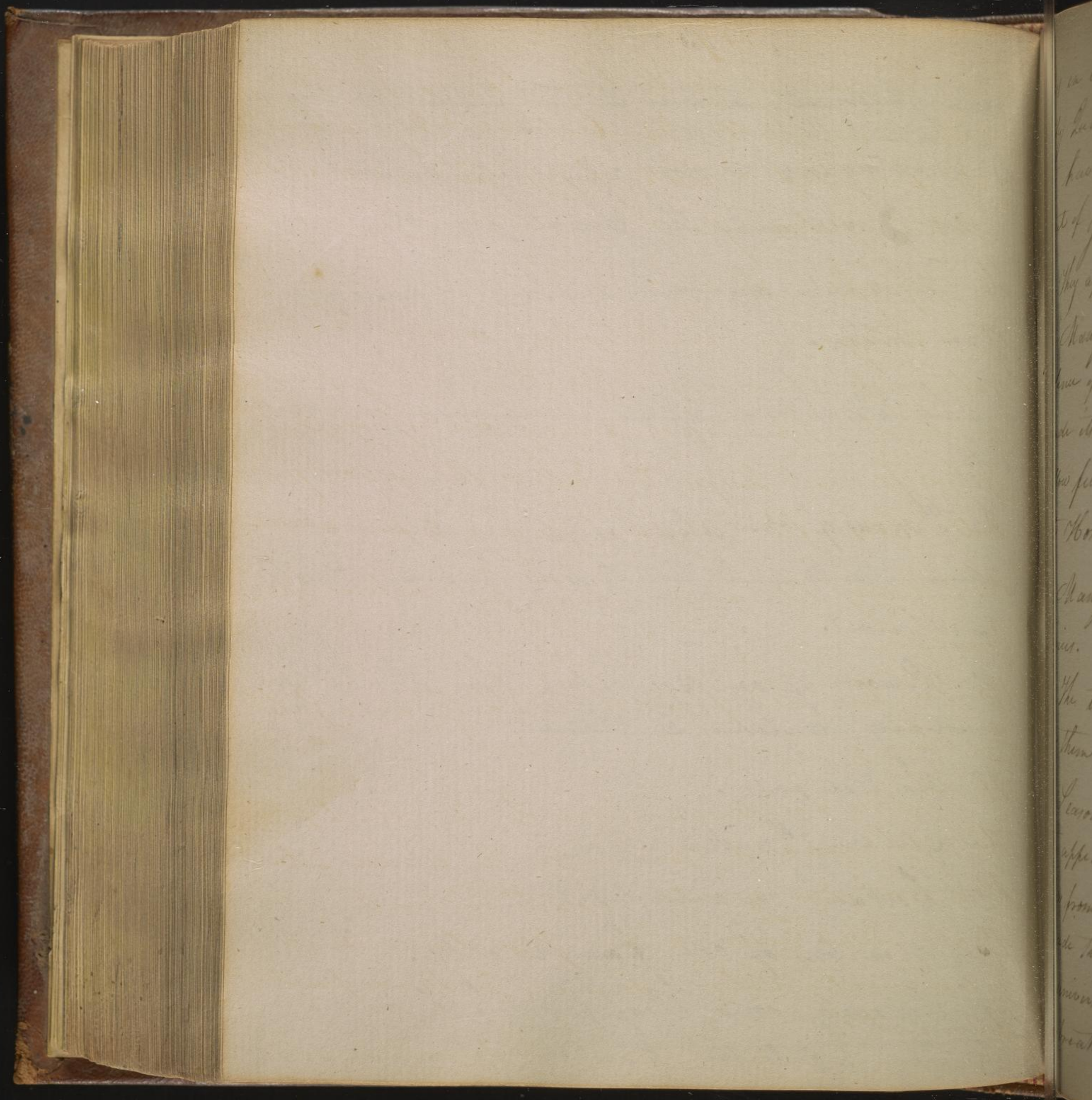
11. Certain Countries.

12. Certain Communities.

13. Members of one family, only.

14. Persons of one Profession, only.

15. They affect the Human Species and some—



times in common with them Brutes, particularly Quadrupeds. The Cats and Dogs of our City have died a little before the commencement of yellow fever.

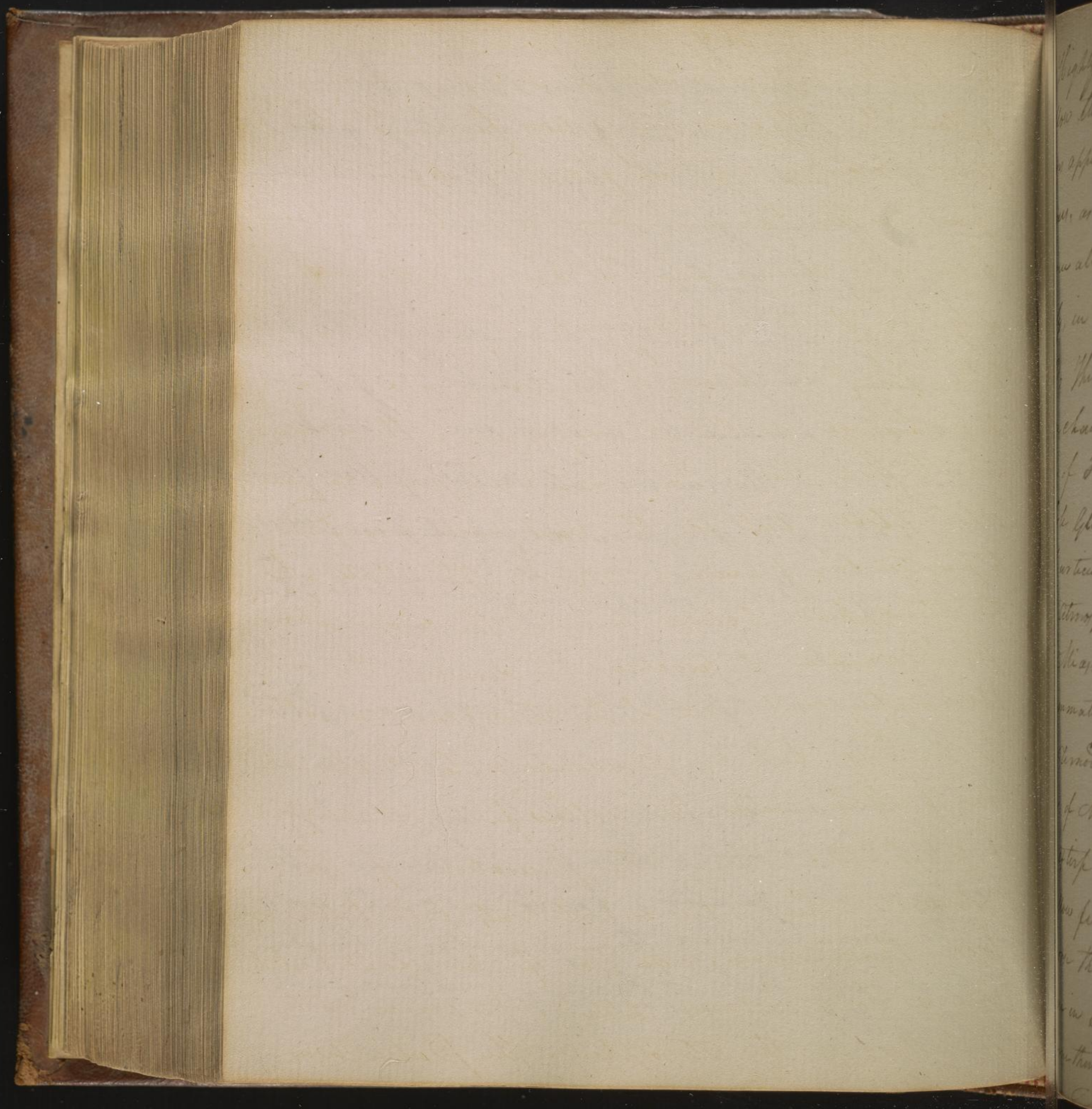
16. They affect Fish.

17. Many new Insects appear during the prevalence of Epidemics: The Potatoe bug first made its appearance during one of our yellow fevers. Mosquitoes attend the yellow fever, but Horse-flies disappear during its prevalence.

18. Many Birds disappear just before Epidemics.

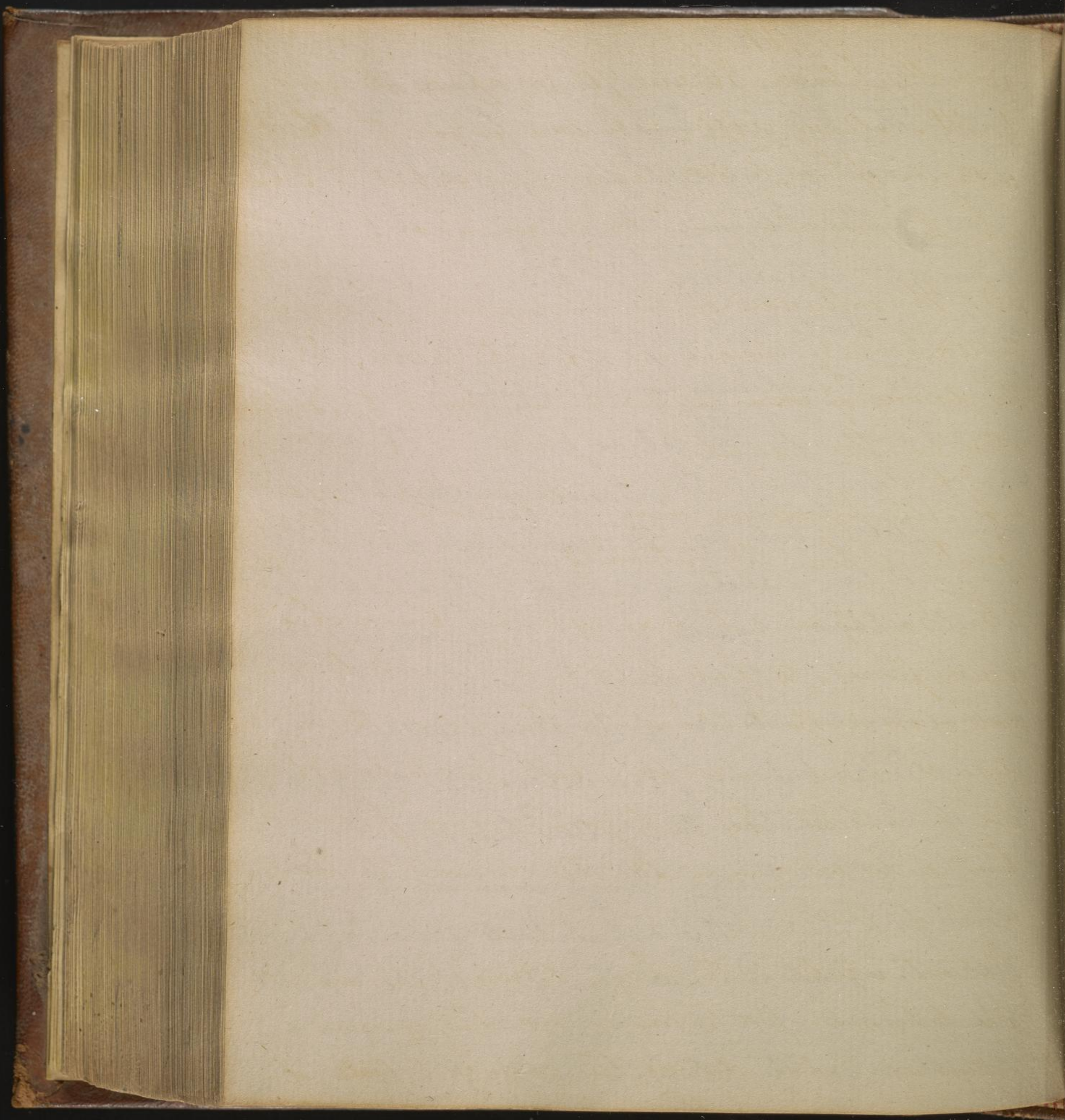
19. The trees and fruits of the Earth are affected by them.

20. Seasons are universally wet, dry, &c. before the appearance of Epidemics. The Winds also blow from new quarters. Comets and Earth-quakes precede them. During their prevalence the Air is universally calm & serene, the Birds pant for breath.



21. Highly inflammatory diseases precede and follow the Plague, and Yellow fever. Putrid fevers appear in different forms in different years, as the Plague, Dysentery, Colic, &c. hence all diseases are the same, differing only, in seat and degree.

22. The prevalence of Epidemics is owing to a change in the atmosphere, as the addition of something: This sometimes prevails the whole Globe, but for the most part is confined to particular places, as Cities, &c. This state of the atmosphere requires, however, the co-operation of Miasmata to produce Epidemics; this inflammatory constitution of the atmosphere cannot be removed, but by preventing the co-operation of Miasmata, the Yellow fever, &c. might be extirpated. During the prevalence of the Yellow fever here, the inhabitants felt better, or worse than usual, and those of debilitated habits were in some instances relieved, this was owing to something in the atmosphere. The Pulse was



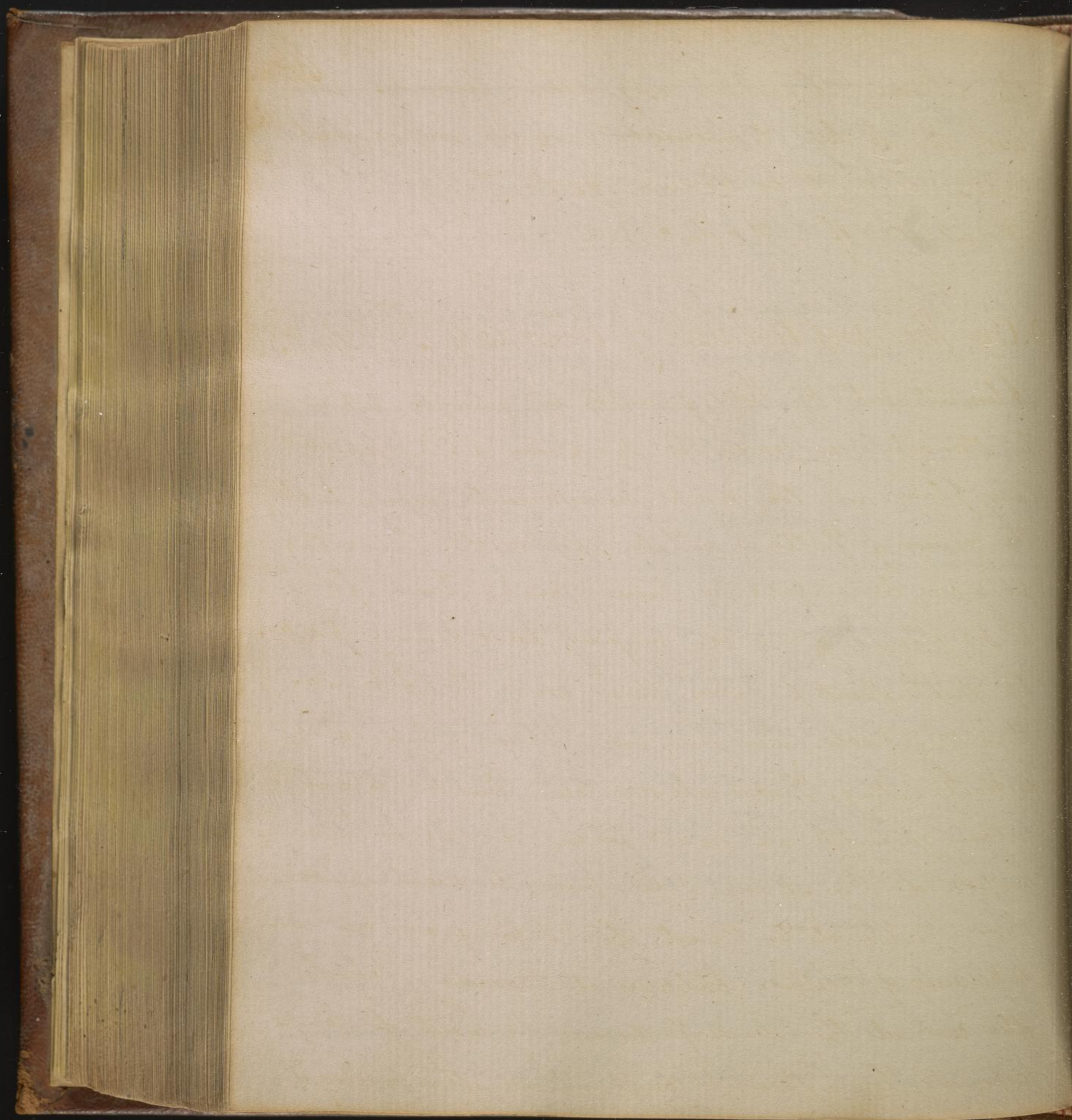
generally between 80 and 90 in apparent good health. Many people who were exposed to the contagion of the yellow fever, were subject to sweating, this probably prevented its coming on.

23, The influence of the atmosphere changes the violence of diseases in different years, hence the disease of some Autumns are cured by Bark, others, by the Linct.

24, All Epidemics may be generated in the country where they prevail.

25, Contagion acts as an exciting cause of yellow fever; a family may be exposed to exhalations without contracting the fever, their diet, &c, being moderate, but should one of these be affected, the contagion arising from him will communicate the disease to the whole of them.

Patients affected with Acute, chronic diseases, &c. should be more particular in avoiding exercise and sitting up late, during the changes & full of

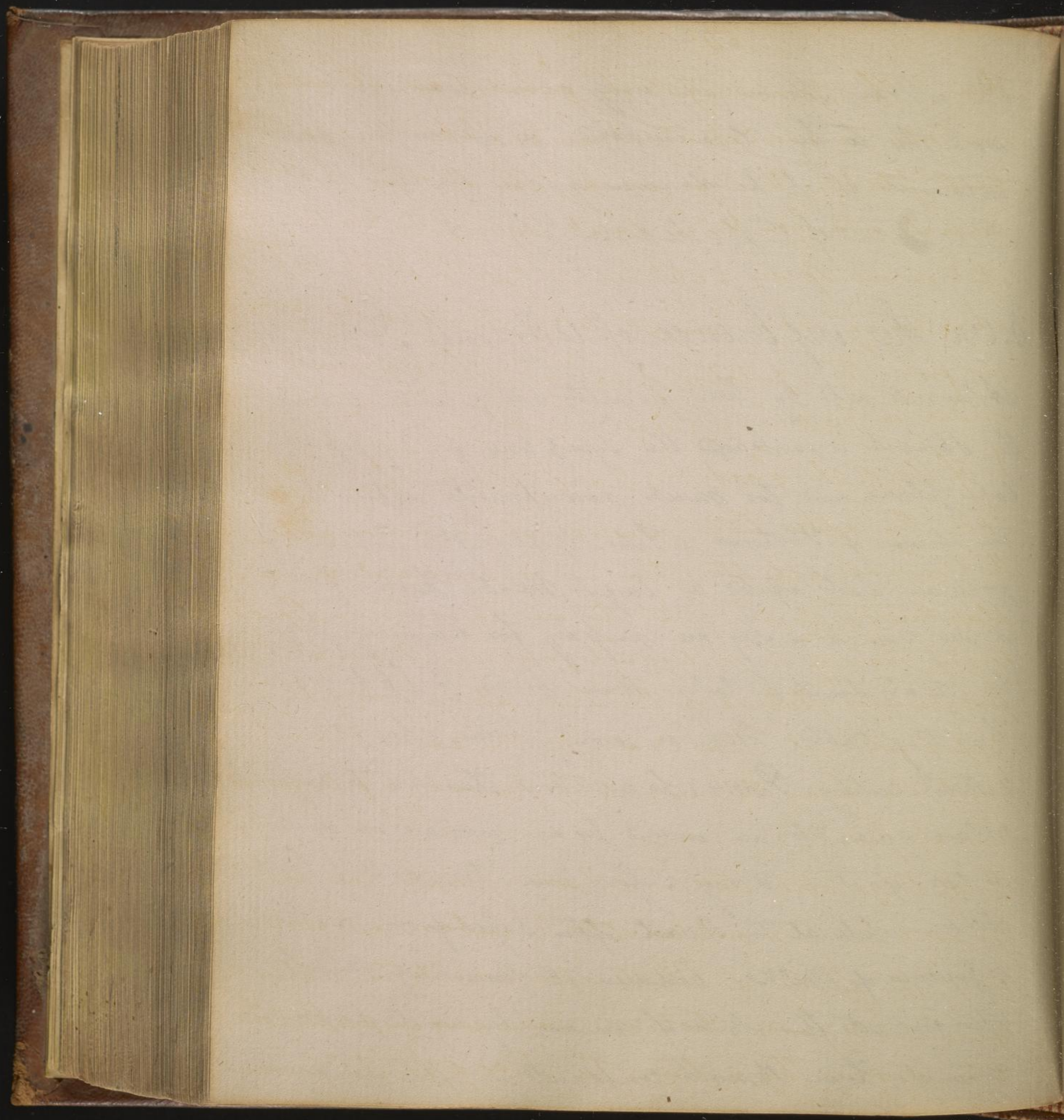


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the Moon, than at any other time. I wish this to be remembered, as an important inference is to be drawn from it in the Practice of Medicine.

6. On the influence of Aliments, Drinks.

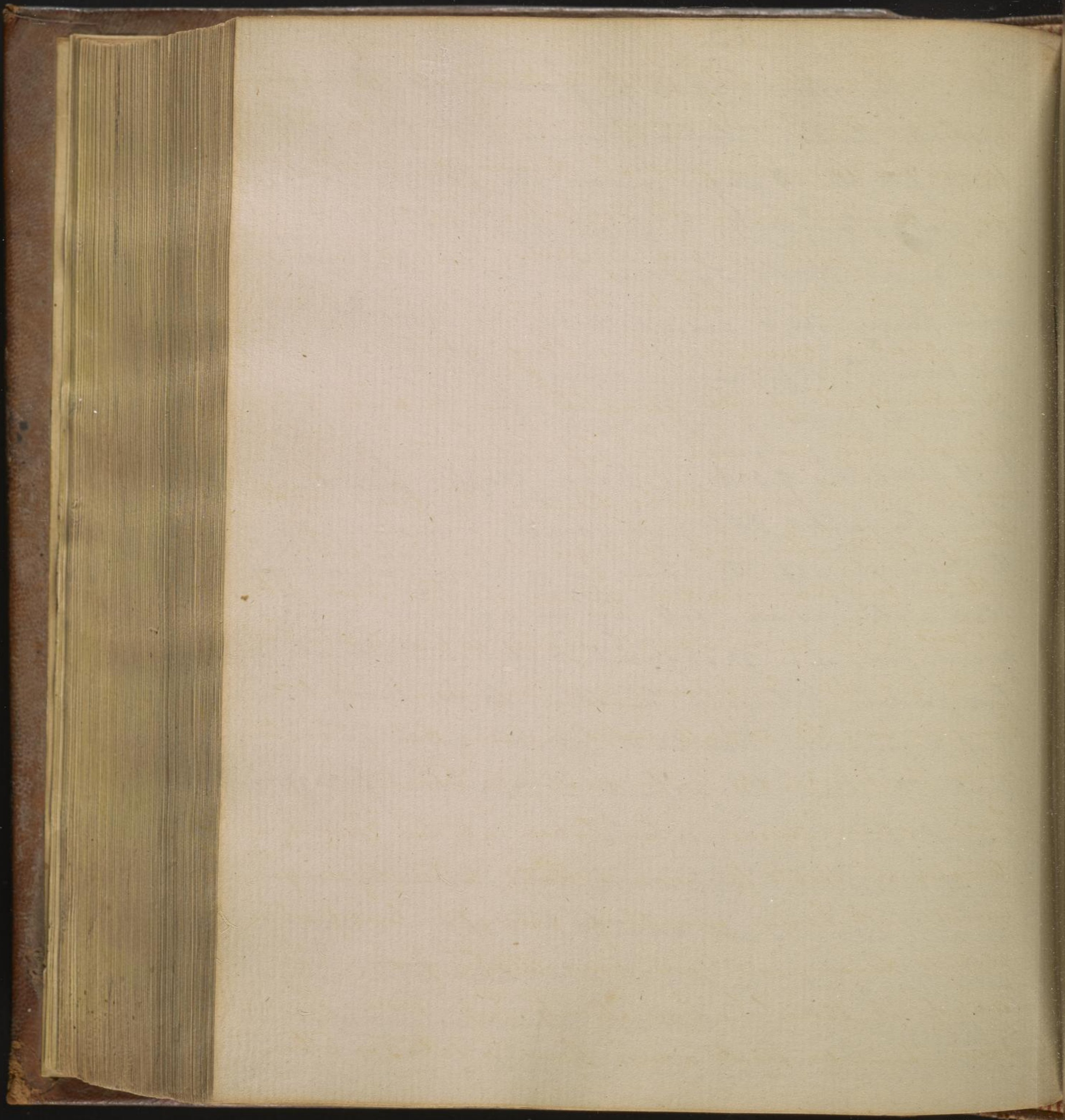
Aliments act by their quantity and quality; when the stomach is overloaded the symptoms of Dyspepsia take place, and too much nourishment disposes to all the diseases of Plethora, as Palsy, Apoplexy, &c. Labouring people are least affected by large Meals. From four to six pounds a day are necessary for ordinary people; less Meat should be taken than bread, & less bread than Vegetables. Few live more than eleven days without eating. Persons who are accustomed to eat a certain quantity, are injured by an increase or diminution of it. Many suffer from the want of food; children while at the Breast often suffer from an insufficiency of Milk. Children at Boarding schools often contract the seeds of disease, by want of nourishment, Some Stomach complaints are often amongst



them. The Morbid effects of famine are, it accumulates the excitability, banishes sleep, renders the breath fetid, &c. Hunger increases the strength of some animals, as the Lion, &c. a small degree of it has this effect on our species; Scotchmen are said to fight best when hungry, this is accounted for by the stimulus arising from the expectation of eating. The influence of Diet in producing Disease, and

1. Of Animal Food. Many people live on Fish, they afford little nourishment, and diminish the Venereal appetite, their use is beneficial in inflammatory diseases, but they are injurious in Leprosy and Fevers of a Malignant nature. Animal food produces itching of the skin, Leprosy, Scurvy, &c. Beef digests easier than Veal; Mutton easier than Lamb, &c. hence the propriety of prescribing full grown Animal Food.

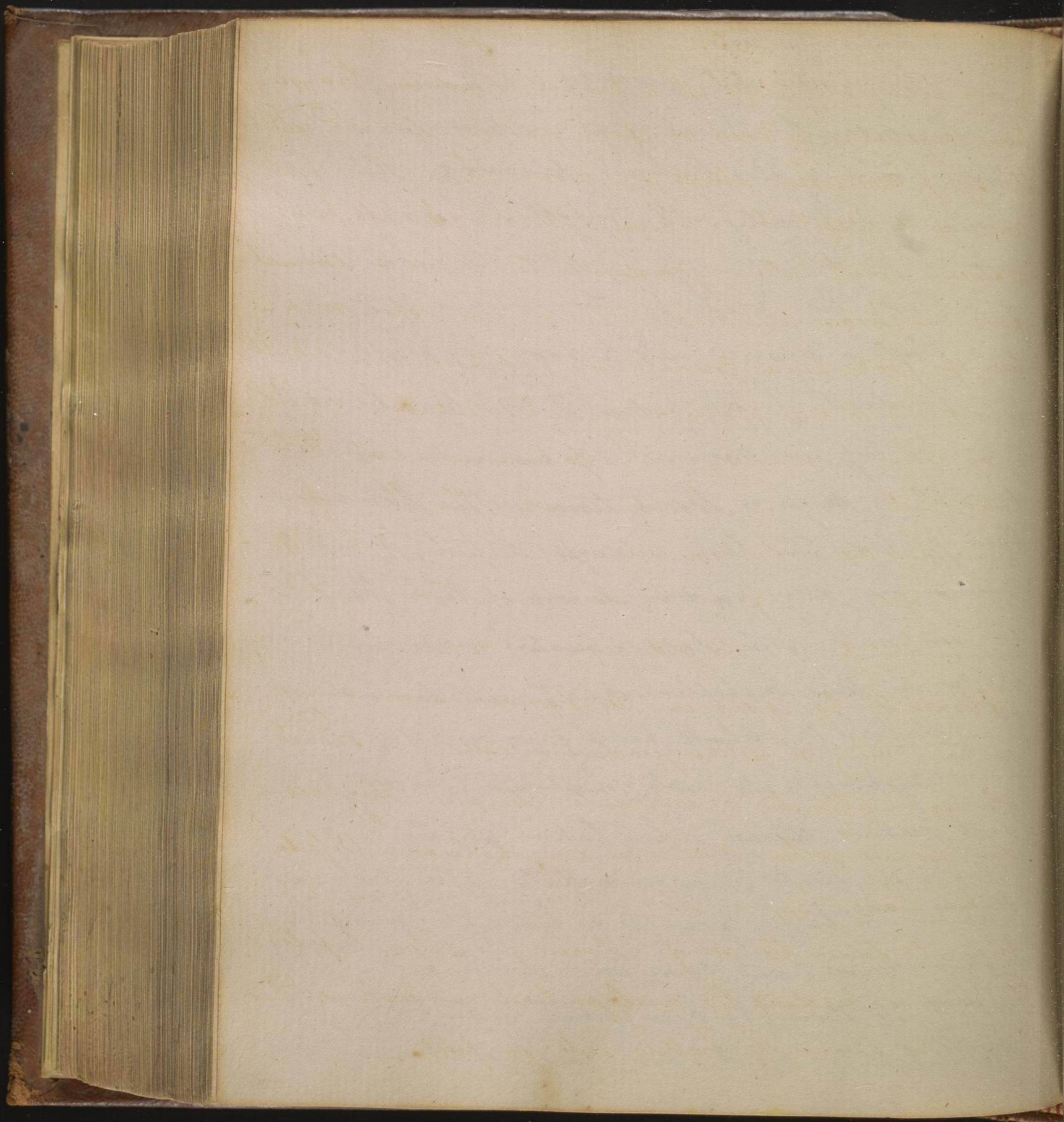
2. Of Vegetable diet. Many people live on this diet, but it is not adapted to Labour and exercise. The gluten of wheat approaches to the nature of Animal food; Roots are nourishing in proportion to the Sugar they contain; the Juices of fruit produce



Bolus. Vegetable diet produces weakness, Dyspepsia, Dysentery, &c. It increases the clearness of the vision & sound sleep. And prevents dreaming. Milk is partly animal and partly vegetable. Eggs also, these when boiled soft are very digestible, but otherwise, when hard; then white by remaining a long time in a clout is converted into a stony matter.

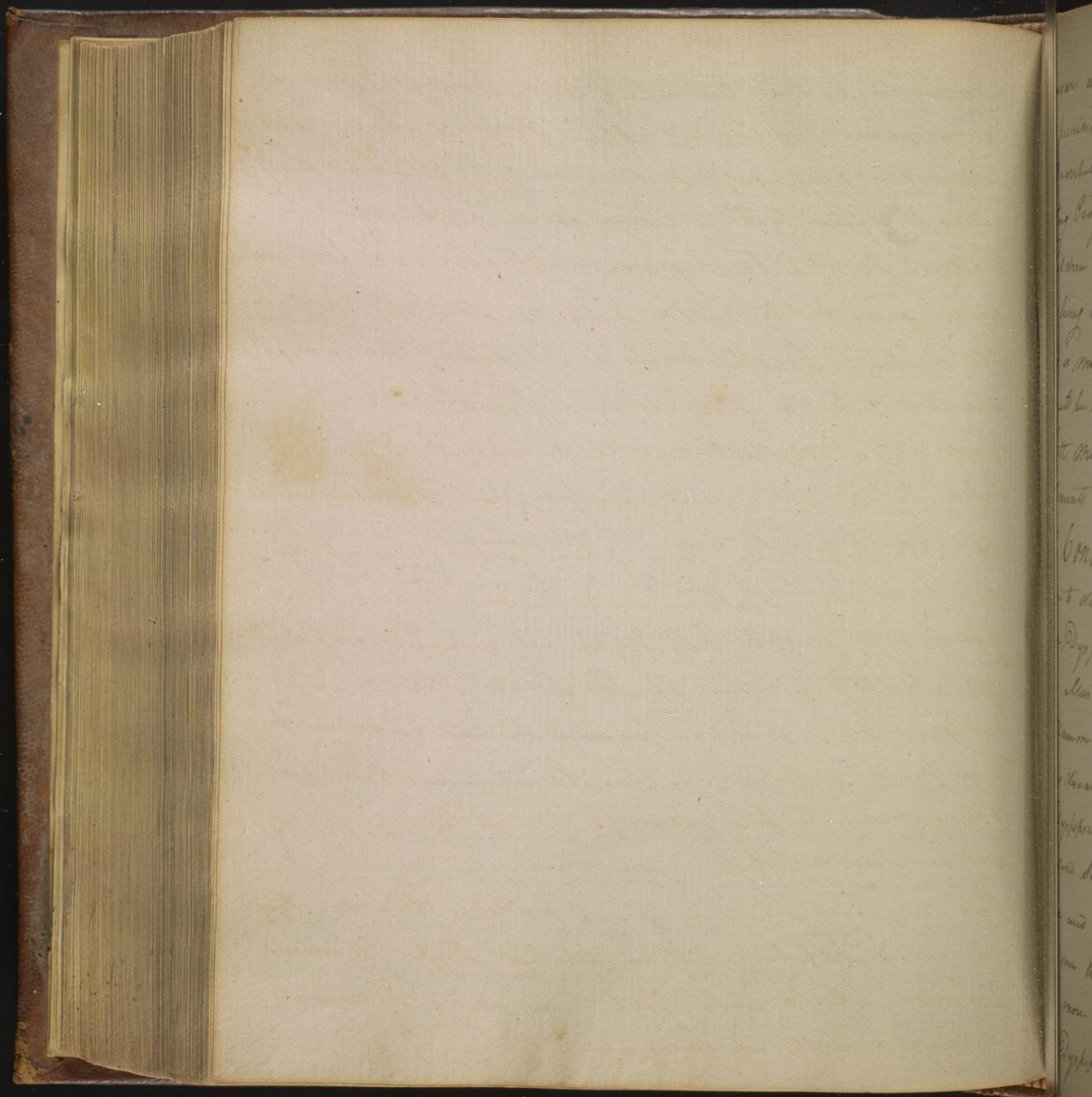
Independent of the quantity and quality of aliment, they are more or less unhealthy as they are kept a longer or shorter time, the first renders them putrid, the last indigestible. Fish when kept a few days produce disease of the skin; Lobsters and crabs do the same. Oysters when roasted hard and dry produce Dyspepsia, and sometimes the cholera morbus. Bread half baked produces Bolus; Toasted Bread, Dyspepsia; also badly masticated food.

Food produces disease when taken at too long intervals; it should be accommodated to the degree of exercise. A large quantity of food after long fasting produces disease, and sometimes death, from the excess of its stimulus; Convalescents suffer from this cause, hence we should advise them to eat 5 or 6 times



a day and but little at a time. Sudden transitions Vegetable to animal food produces disease, and the symptoms which attend are worse, than those from animal to Vegetable, hence after the Small pox, patients should return gradually to the use of Animal food. Diseases are produced by an improper mixture of food, hence Convalescents & sick people should be confined to one particular diet. Aliment too hot, or too cold produces disease; No Animal eats hot food, but Man. Novelty disorders the Stomach, hence new dishes seldom sit well at first, with us Melons, Radishes, &c, from this it appears that the Stomach had forgot its old acquaintances.

Aliments, by lying in the Stomach some days without being digested, produce disease; this should always be attended to in acute diseases. They produce disease when cooked in unwholesome Vessels, such as Lead & Copper; Stomach complaints are less frequent since the use of Iron and Silver Vessels. Disease is produced by uncleanness in cooking, and Insects, as Spiders, &c, falling into the food.



Diarrhea is produced by eating Animals that have fed on pernicious Substances: When I was at Jersey College a Diarrhea was brought on forty or fifty Students, by eating Pigeons that had been fed on poke-berries.

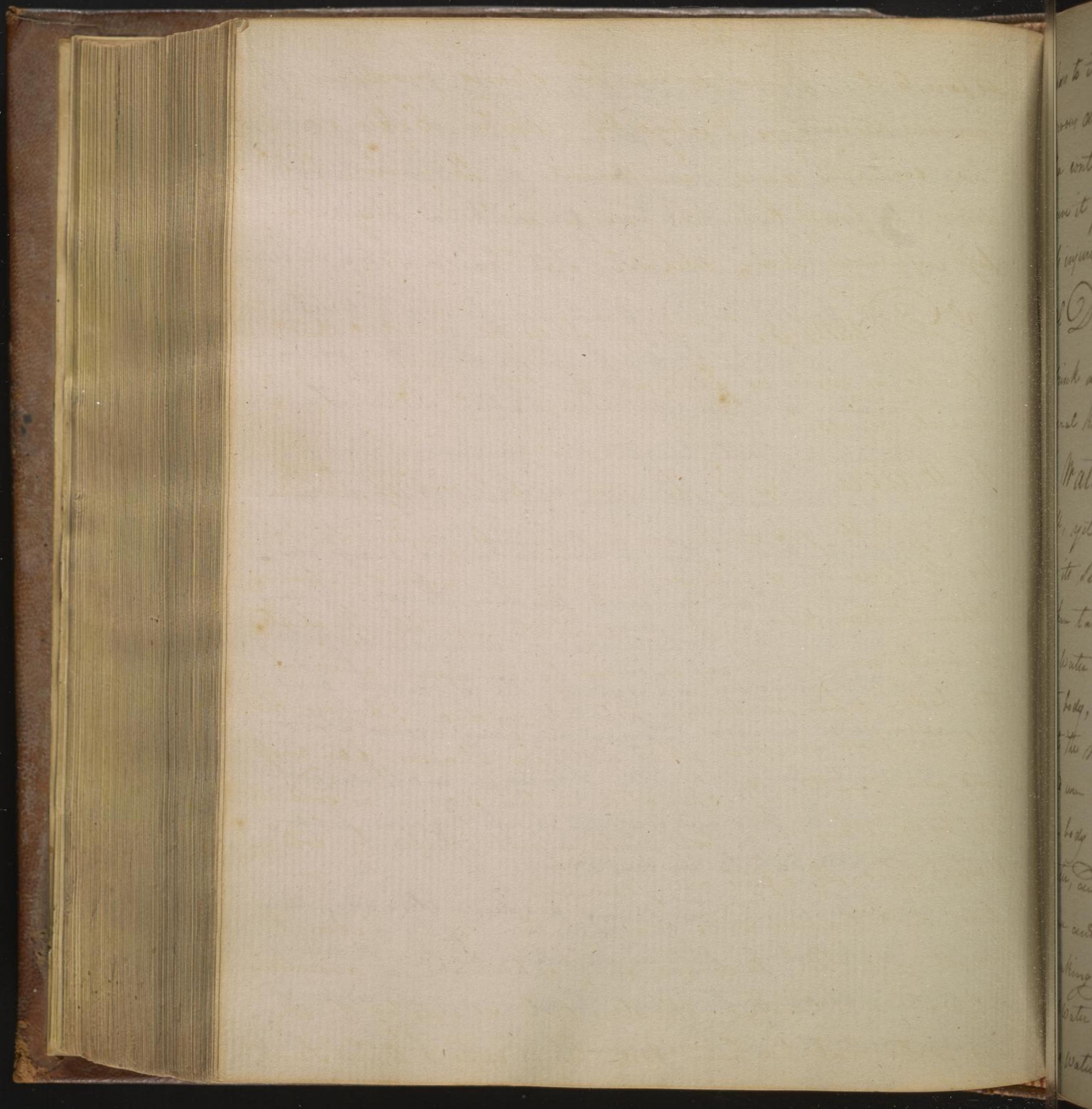
Children in the country escape the cholera Infantum, by living on Salted meat. Salt meat with Vegetables is more healthy than fresh meat. The former should be eaten in Summer, the latter in Winter.

Salt meat without Vegetables produces Sourness.

Aliments are disagreeable from certain Idiosyncrasies.

of Condiments. Thus when taken in excess dispose to disease. Salt in excess produces Sourness; Vinegar, Dyspepsia; &c; this last does not diminish corpulence. Mustard produces Spasms in the Stomach, and inflammatory diseases. Sugar in large quantities produces disease, as Dyspepsia, &c. Spices in excess dispose to Dyspepsia; the long and excessive use of Cayenne pepper produced Swelled Testicle in one man.

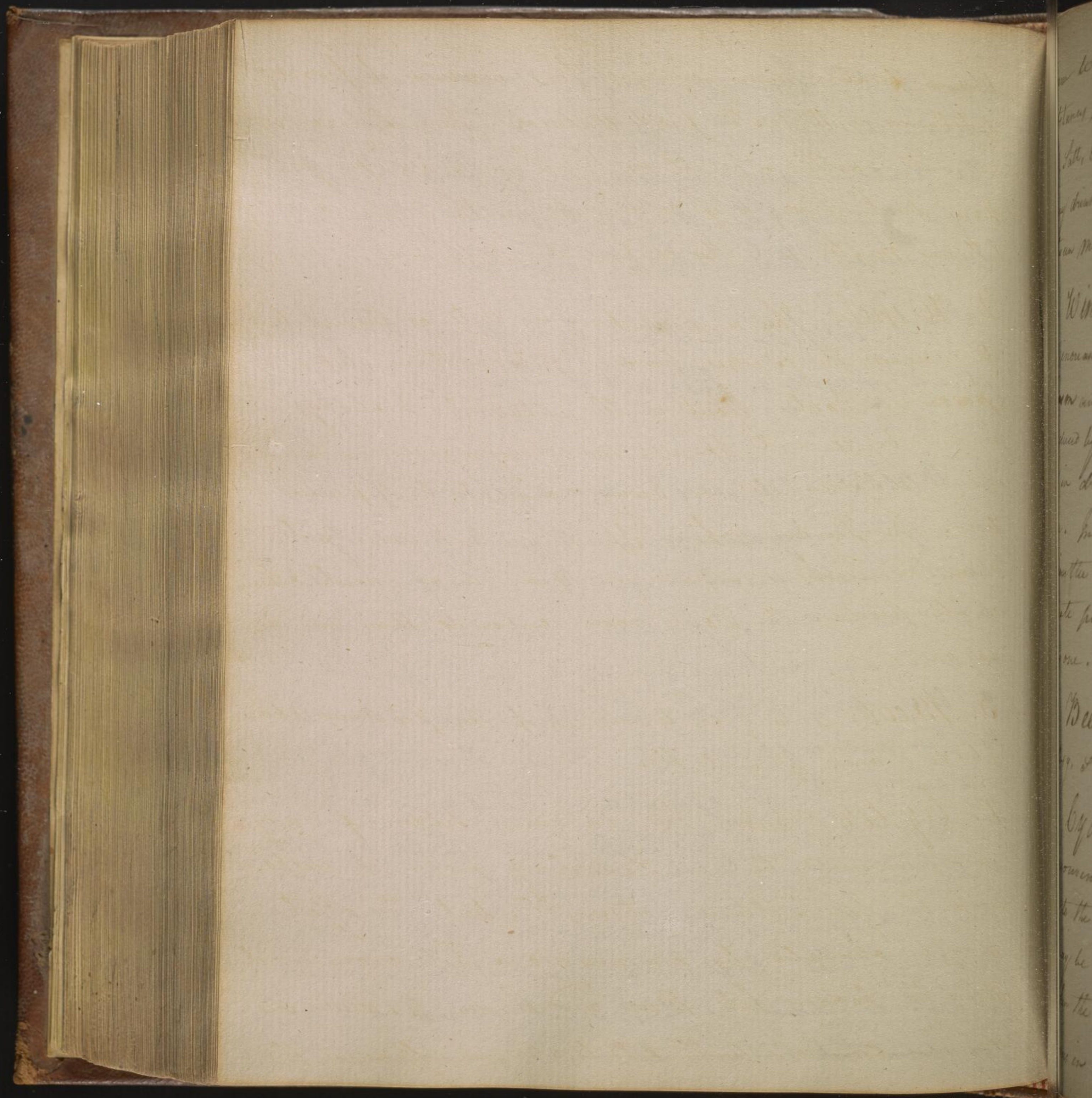
Tea and Coffee when too strong produce disease. They produce Wakefulness, but in debility, Sleep. Women are more affected with Gout, than men; it appears in Dyspepsia, &c; in consequence of the use of Tea, which



disposes to it. Coffee when too strong produces nervous diseases, as Vertigo, &c. Neither Coffee or Tea contain any nourishment of themselves, but derive it from the Sugar & Milk. They are less injurious than Acquit Spirits.

Of Drinks. Man stands in need of drink as well as food, and of them, there are several kinds;

1. Water. This is the most wholesome of them all, yet it produces disease by its quantity, by its sensible qualities, and by its impregnations. When taken Cold it produces Tooth-ach, &c. The effects of Water are much influenced by the Temperature of the body, when the body is hot, it produces Pleurisy, &c. but the most common effects of it are Spasms, faintings and even death. Its operation is the same as cold air. The body when in a hot bath is not affected by cold water, and its effects are prevented by washing the face and hands and grasping the Vepel, before drinking. The Indians are particular in avoiding cold water as a Drink. Thirst is best allayed by drinking water that has been some time exposed to the Sun.

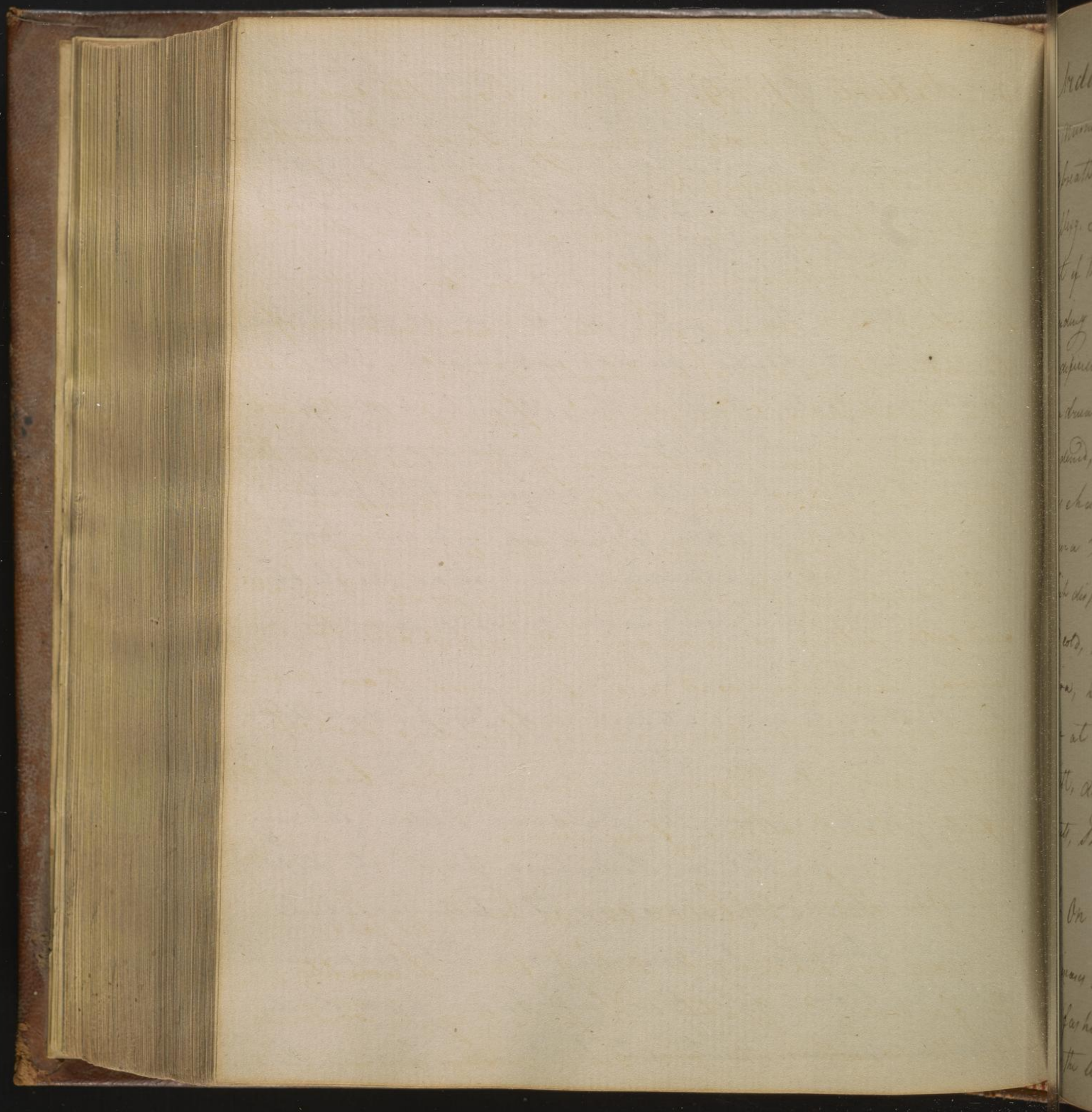


Warm water never injuring. The mixture of foreign substances with water produces disease: these substances are, Salt, Earth, Copper, Iron, &c. Lime water purges. Many drink draughts of cold water in the morning and between meals, but this disposes to Dyspepsia.

2. Wine. This is nourishing as well as stimulating, it increases the pulse, produces intoxication, sleep, ~~spasm~~ and Gout. Gout in the extremities is always produced by Ardent Spirits; no intemperance in eating, and in drinking Wine, being adequate to its production. In Turkey, where Spirits are not used, Gout is in the limbs is unknown. Wine in a moist climate produces the Gout more certainly, than in a dry one.

3. Beer. a long continued use of this produces Apoplexy, Stone, Gravel, &c.

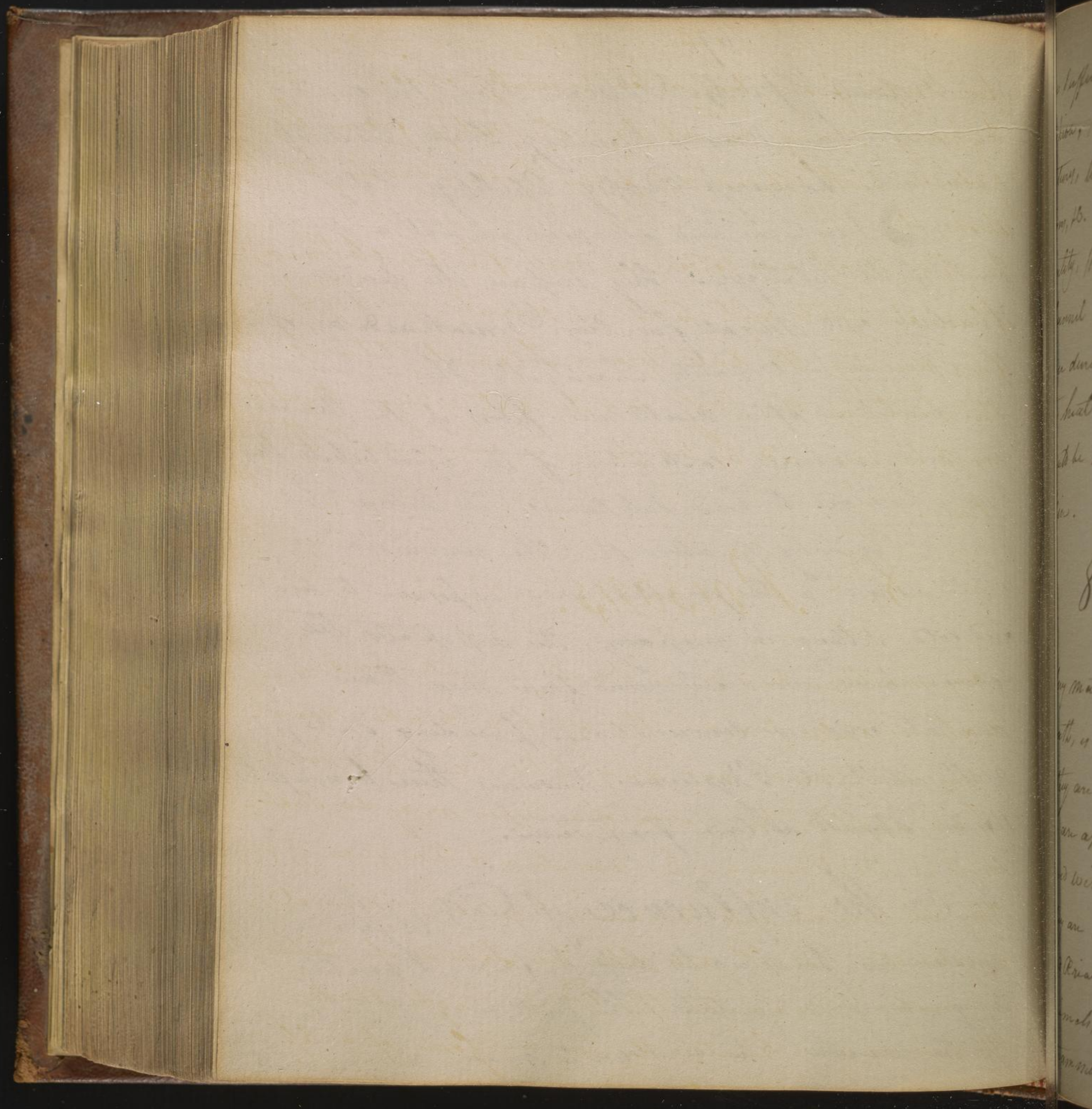
4. Cyder. From this labourers seldom feel any inconvenience, but in Sedentary people it disposes to the Gout, Rheumatism, &c. but this effect may be obviated by immersing a hot iron in it. When the body is hot, Beer and Cyder produce diseases in common with cold water, as Spasms, &c.



5. *Ardent Spirits*. Diseases from this cause are numerous. Nausea, Vomiting, Trismus, bloating, fetid breath, hoarseness, Dropsy, Epilepsy, Palsy, Apoplexy, Idiotism, and Mania are but a small part of the catalogue. They impair the understanding and Moral faculties. Drunkards are often deficient in Veracity, Chastity, &c. The appearances of a drunkard after death are, fibres of the Stomach hardened, Schirris, contraction of the blood vessels. The focus changed to hard substances, the Arteries and Pleura to bony matter, &c. The circumstances which dispose to this practice are, exposure to heat and cold, sitting in company, this dissipates the Sabras, hence we should never spend more than an hour at once in conversation, breeding sickness, guilt, debt, &c. Physicians, knowing their baneful effects, should abstain from them.

7. On the influence of Dress.

Diseases are produced by dress, 1, from Quantity, 2, Fashion, 3, Quality. The first may be too small for the weather, this gives rise to many diseases, while



few suffer from being too warmly clad.

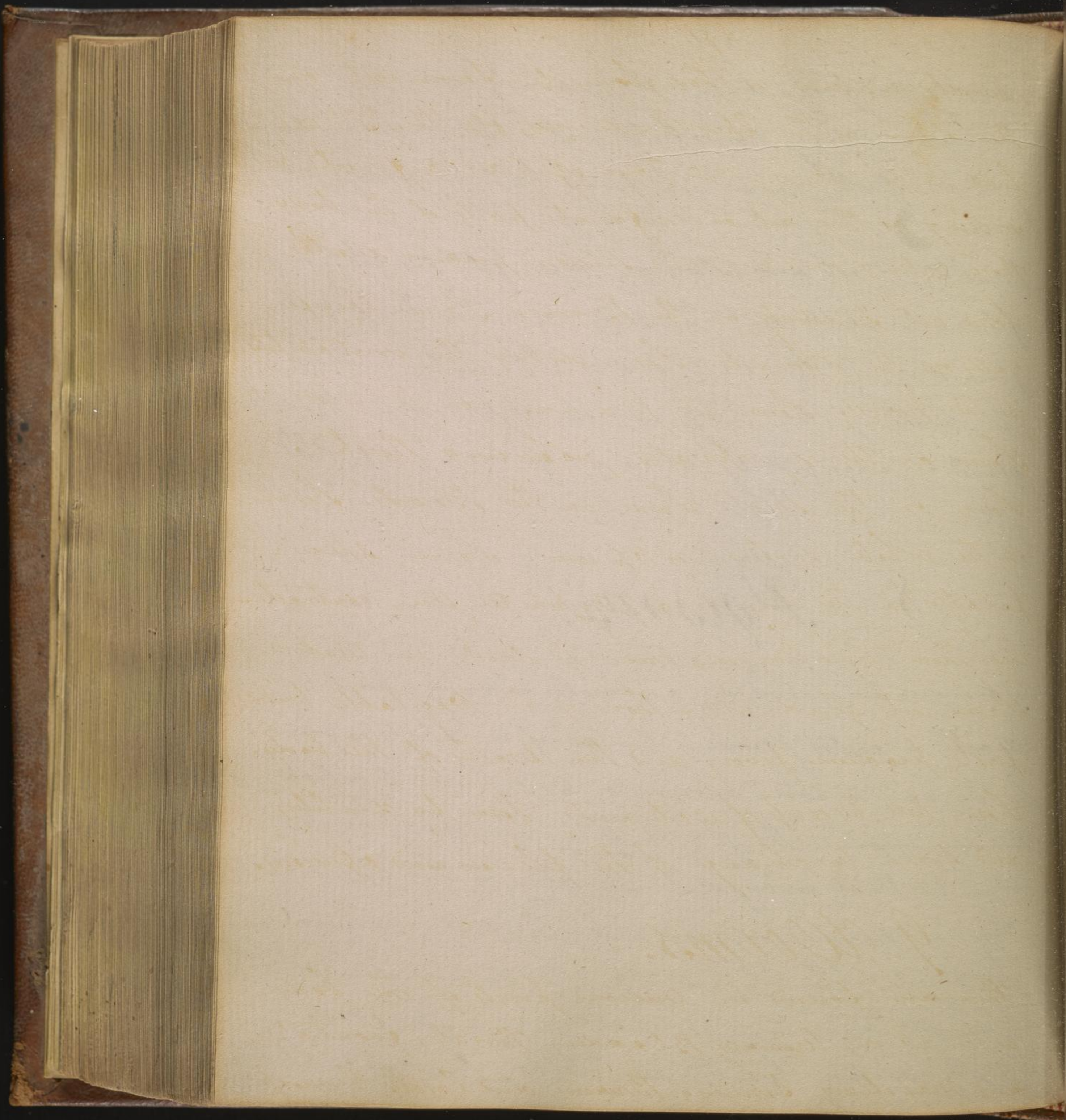
Fashion, Many are afflicted with Vertigo from ligatures, with Head-ach from caps, cravats, Cushions, &c.

Quality, Wool and cotton are most fit for clothing, flannel shirts next the skin obviated the scurvy-sore during the late war. Flannel retains the heat of the body as well but as dry. Health would be increased by the use of Linen next the skin.

8. Poisons.

Any matter, which in a small quantity produces death, is called poison; they are of a relative nature, 1. they are relative according to the part to which they are applied, the poison of a viper may be swallowed without injury. 2. according to their quantity.

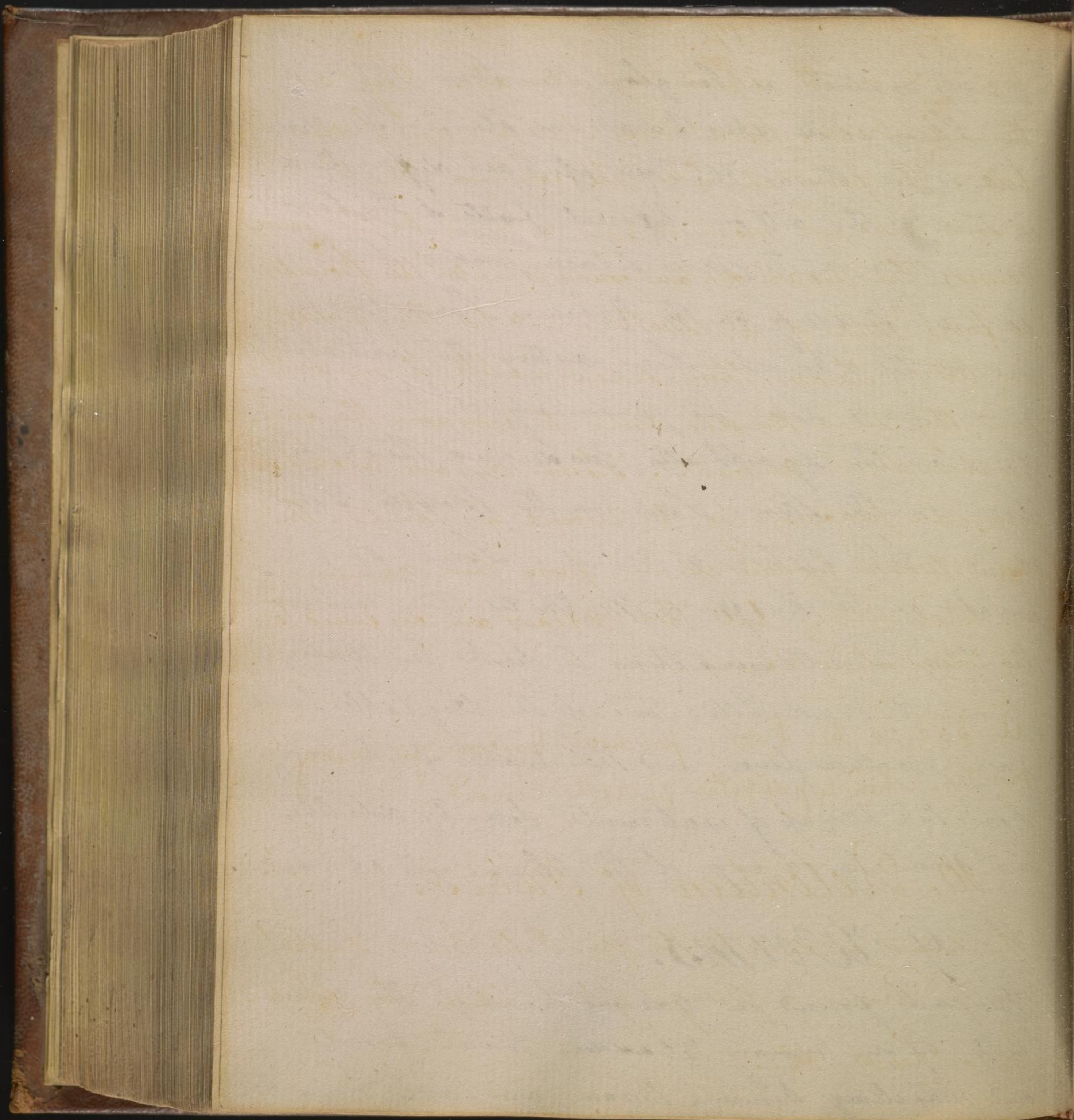
They are divided into Animal, Vegetable, Mineral, and Aerial. The 1st acts like the saliva of rabid animals, & Miarmata. The 2nd are Night shade, Stramonium, Cicuta, &c. there are some of a less



deadly nature, as Fox glove, &c. Some act on the Skin, as the Rhus Radicans, &c. The 3rd are Lead, Copper, Arsenic, &c. Their effects are different according as they act on different parts of the body. Those acting on the Mind seldom produce death. Some act suddenly on the Brain. Some specifically on the Stomach. Some destroy the irritability of the Nerves. Some act primarily on the blood. Some on the Lymphatics, producing Throat. Some on the Skin. Some on the Bowels. Some on the whole system, as Opium. Some specifically on the Lungs, as Mephitic Air, contracting them and causing them to sink in water. Some act gradually; those of the Vegetable tribe first produce fever, and then waste of the body. Some kill by excess of excitement, some by debility, and some by change of the fluids and effusions.

9. WORMS.

They are found in various parts of the body, as the Liver, Urinary Bladder, Throat, frontal and maxillary Sinuses, Brain, and lastly & most

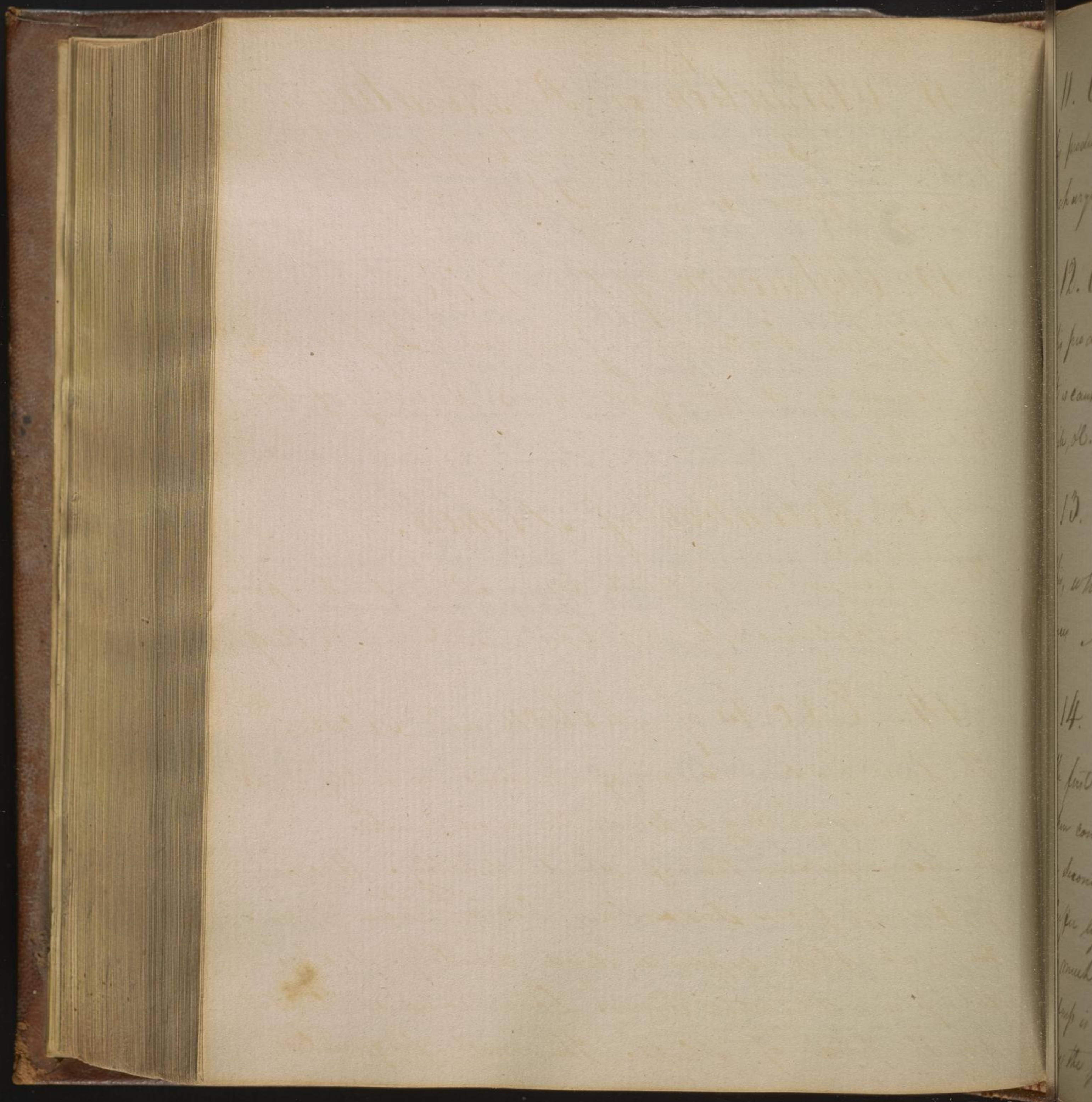


frequently, in the Alimentary Canal. They are the Lumbrico, Ascarides, Tenuis, and Bucur-bito. The first are like the common Earth worm, and are produced and destroyed by the same cause. The Ascarides are conveyed into the bowels, by food, milk of the Mother, and by the liquor in utero. From their universality, it is presumed they were kindly sent, to consume the superabundant Aliment. Some diseases in children are produced by the want of them. The round Worms produce disease from their number and wandering, but these diseases are confined to the Alimentary Canal.

A Seed in the Larynx produced Dyspnea for many months, when expelled, the Patient recovered.

10. Retention of Faeces.

The diseases produced by this are, Piles; Colic; Suppression of Urine; a Purge often follows this; Ruptures; Fever, &c.



11. Obstruction of Perspiration.

This produces, Snoring, Diarrhea, Eruptions, Increased discharges from Sores and Sprues, &c.

12. Obstruction of the Bile.

This produces Costiveness, Jaundice, Lapitude, &c.
It is caused by Spasm, Gall-Stones, Viscosity of the Bile, &c.

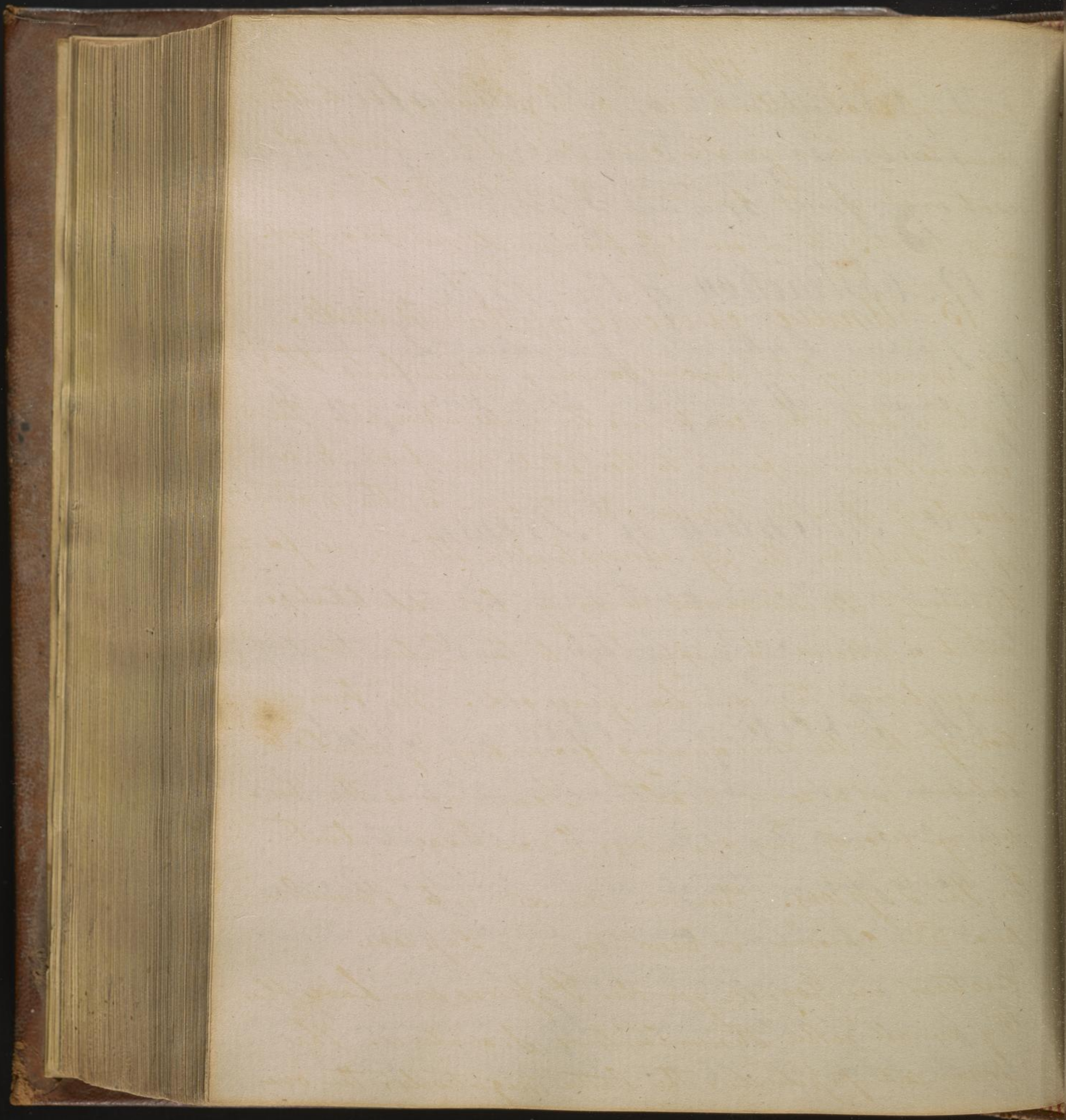
13. Retention of Semen.

This, when attended with Venereal appetite, produces Melancholy, Epilepsy, and Death itself!

14. Excess of Motion and Rest.

The first produces Diseases of Indirect debility, and when continued long expends the system.

The second produces those of direct debility. Women suffer less from Sedentary living, than men. Too much Sleep disposes to direct debility. Wakefulness is a relative term. Love, Avarice, &c. supply the place of Sleep. The most frequent



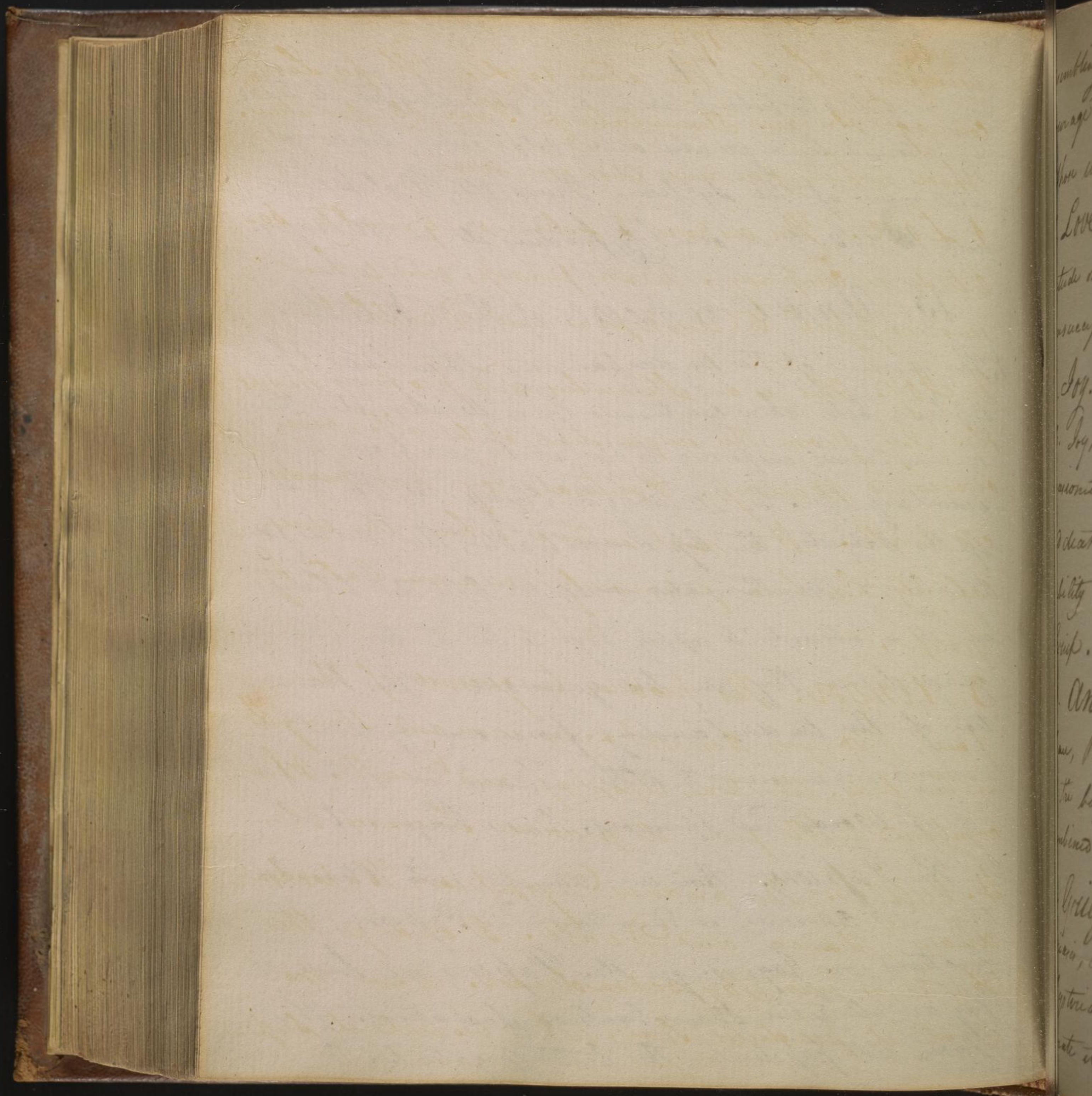
causes of wakefulness are, a light Supper to those accustomed to a greater one, cold feet, unusual excitement of the system, Thews, &c. Watchmen and the Bells in our City produce it in strangers.

15. Undue exercise of the Mind.

1. The exercise of the understanding stimulates the system, but, when continued long, weakens it. The circumstances disposing to this effect arise from, 1, a sedentary life. 2, Midnight Study. 3, the nature of the subject, the less demonstrable, the more fatiguing. Mathematics in early life debilitate; and it is absurd to apply boys to the Latin Language before they are ten years old. The transition of the understanding from employment to idleness influences health. Learning is the History of words and opinions; Know ledge is truth.

2. The Passions. These are divided into Stimulating and Chronic, or Emotions and Passions.

Emotions are Joy, Anger, &c. Passions are Love, &c. They are all either Stimulants or Sedatives. The former act positively, the latter negatively; the one



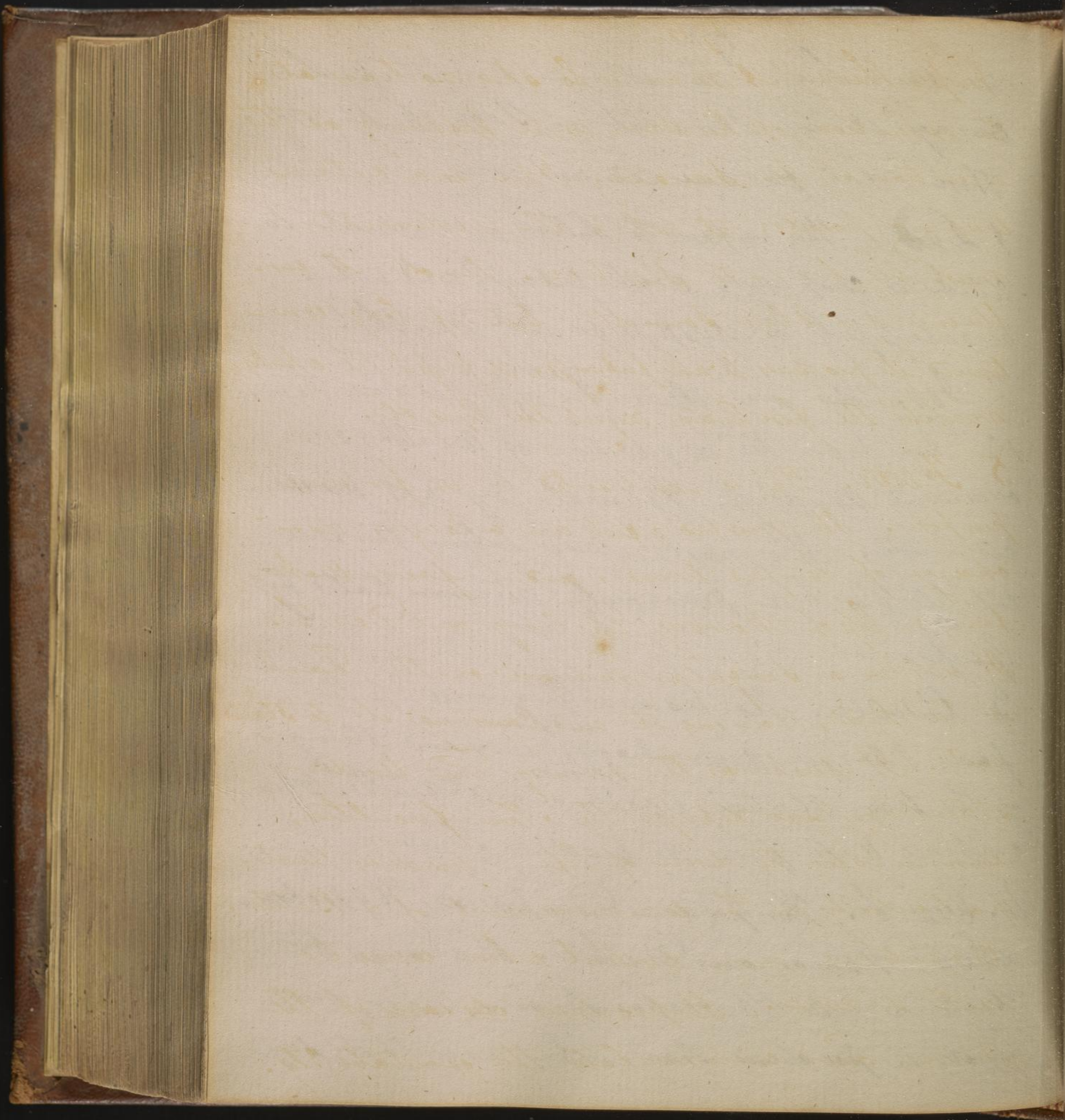
resembling heat, the other cold. Hope, Love, courage &c. are stimulating; Fear &c. sedative. Those which produce disease are,

1. Love. This disposes to silence or garrulity, solitude or company, wakefulness, and when unsuccessful to Dyspepsia and Death!

2. Joy. This is a stimulus and produces Fever, &c. Joy, from the acquisition of wealth, once occasioned Madness. Political Joy has produced death. It is most intense when the excitability has been previously accumulated by Grief.

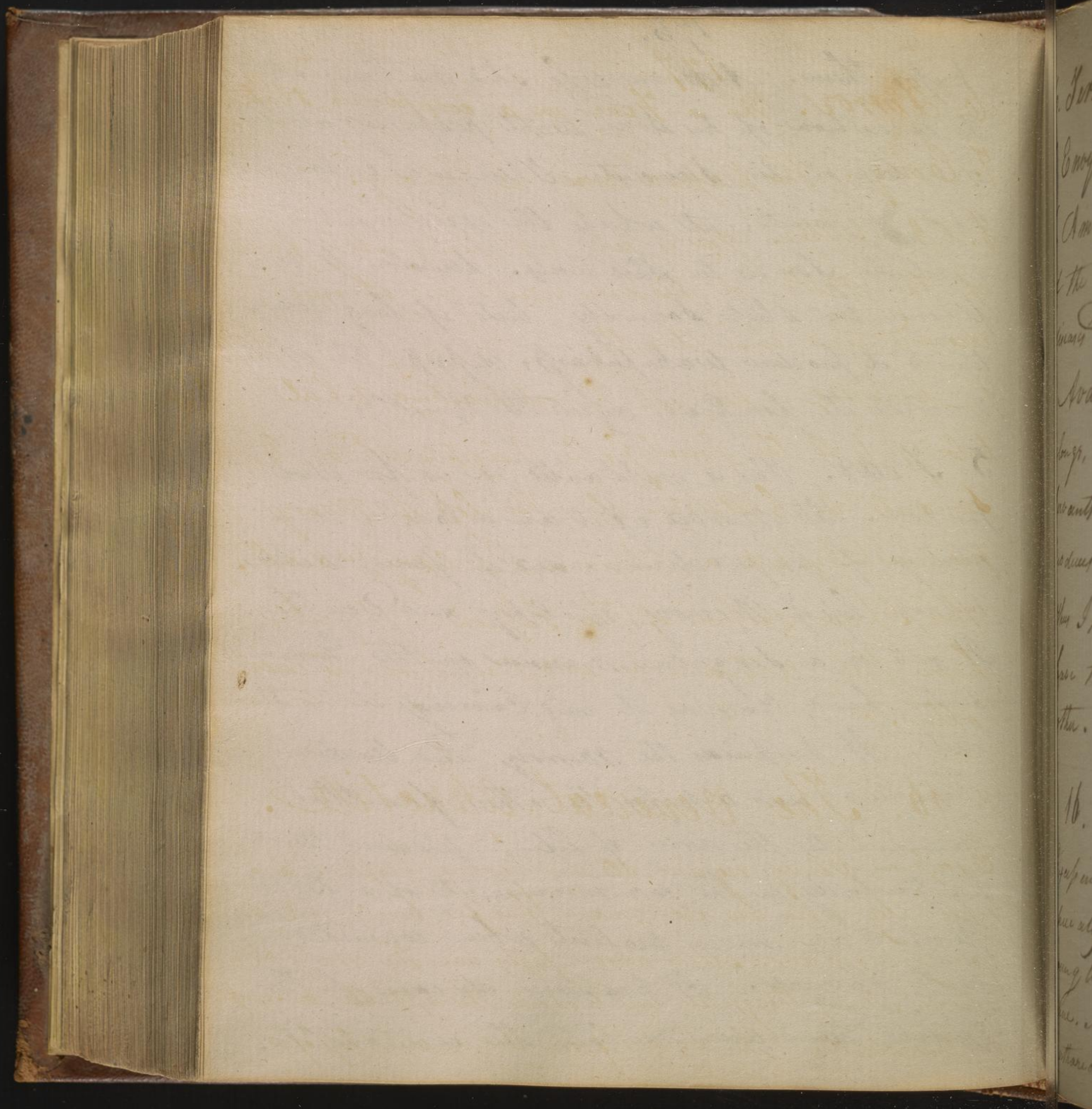
3. Anger. This produces tinginess of the face, Red Eyes, Hemorrhages, inward strength of the body, Abortion, Apoplexy, and Death. When combined with fear it produces Tumors, &c.

4. Grief. This produces Dyspepsia, Hypochondriasis, Mania, and Death. It changes the Hysteria into Hypochondriasis. When moderate it produces Tears, when violent it sup-



= proper them. A man who shed no tears at the execution of his son, wept profusely at the execution of his servant. There is a certain weeping point, at which the excitement must be for us to shed tears. Under its influence we sleep soundly, but if long continued it produces wakefulness, depresses the cheeks, wrinkles the forehead, directs the Eyes, &c.

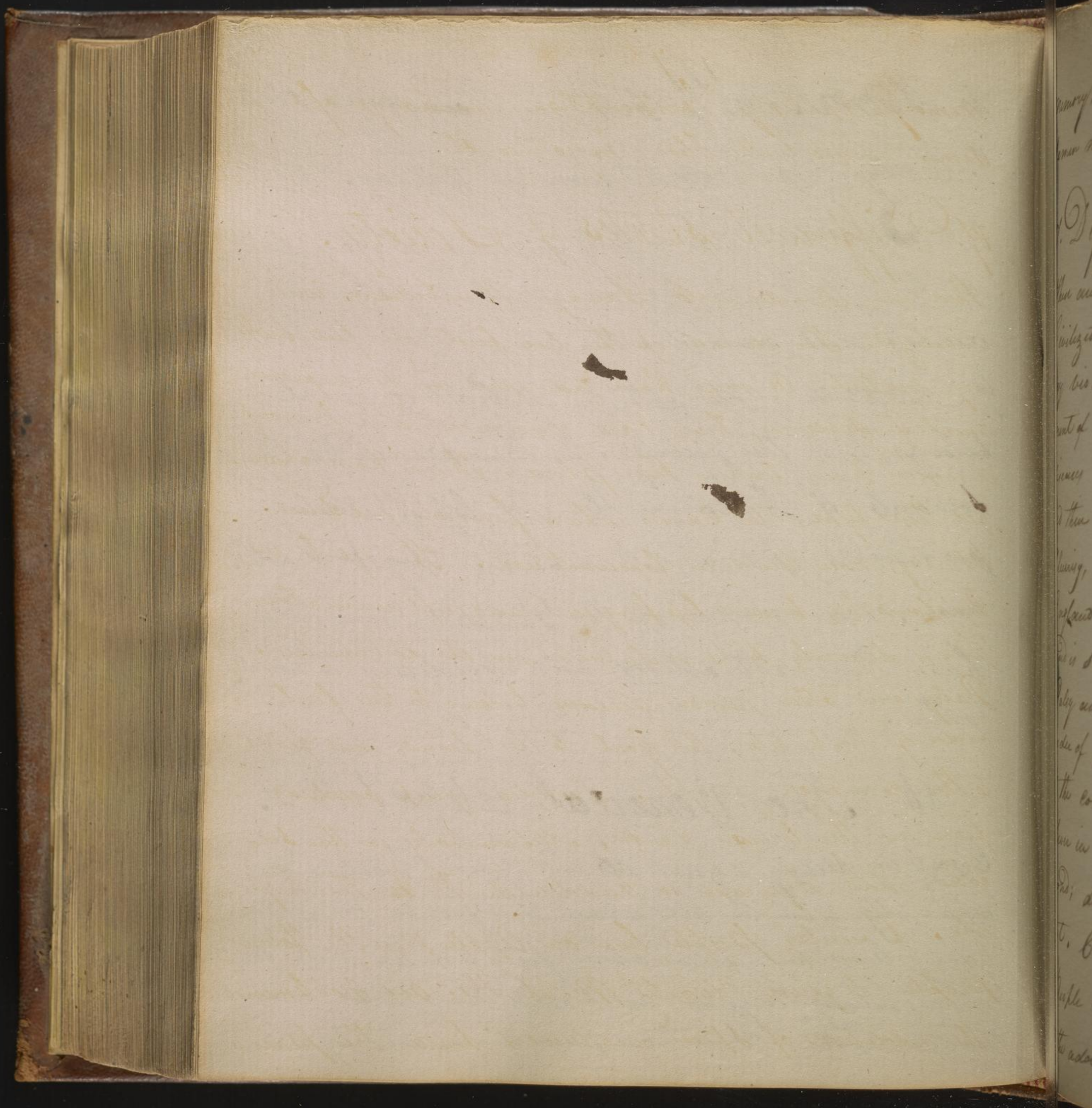
5. Heat. This is implanted in us for wise purposes. Its morbid effects are a Cough, discharge of limpid urine, and of focus, wakefulness, loss of Memory, Epilepsy and Death. It acts in a singular manner on the Hair of the head, raising it and causing it to stand out. It suspends the memory and understanding, and depresses the other faculties; annihilates the desire of life, produces thirst, particularly in the commencement of a Bottle. Its effects are more violent when connected with shame. It produces diseases of the Nerves, and accumulates the excitability.



6. Fear. This is Fear in a compound state.
7. Envy. This passion knows no holiday.
8. Ambition. This is an inflammatory fever of the mind, it produces acute and chronic diseases and even death.
9. Avarice. This acts by abstracting what belongs, 1, to the country, 2, Neighbourhood, 3, Servants, 4, Children, &c. The loss of money produces Dyspepsia, Mania, Epilepsy, & death.
- Thus I have spoken of the Passions: They all have their attractions and repulsions to each other.

10. The Venereal Appetite.

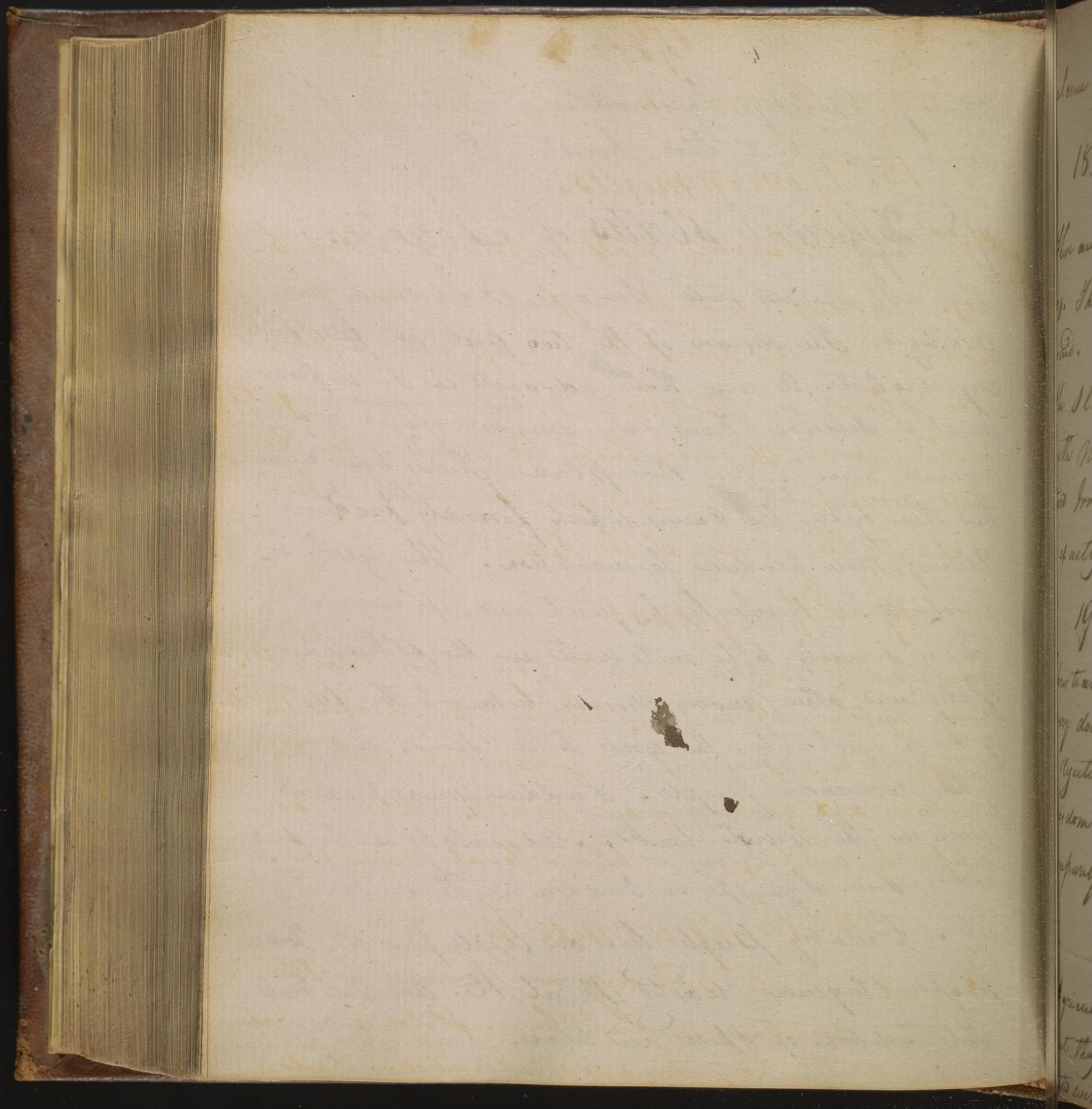
Excess in Venery injures old and young people, and especially when an old man has for his consort a young woman. Men above fifty are the most ob-
 scene. Many things are used to excite this appetite, as snuff,
 cantharides, &c. The diseases from Venery are, loss of



memory, Epilepsy, Consumption, discharge of
 semen mixed with blood, Impotency, &c.

17. Different states of Society.

Man are divided into Savage, Barbarous, and
 Civilized. The diseases of the two first are few, but
 very violent. As men have advanced in the improve-
 ment of Sciences, Fevers have diminished and Nervous
 diseases have taken their place. Fevers have chan-
 ged their type, the Causes which formerly produced
 Pleurisy, now produce Consumption. The Gout in
 England has become less frequent and inflammatory,
 and is scarcely to be met with in the exquisites.
 Palsy and other Nervous diseases, belong to the first
 order of Nobility; the Gout to the second; and fevers
 to the common people. Sudden Grip produces
 fever in the lowest rank; Melancholy in the se-
 cond; and Syncope or Sudden death in the high-
 est. Country people live on Apple pie &c. Town
 people require Roasted Meat, &c. and Noblemen
 the addition of Spices and wine, hence the pre-



valence of Nervous diseases.

18. Governments.

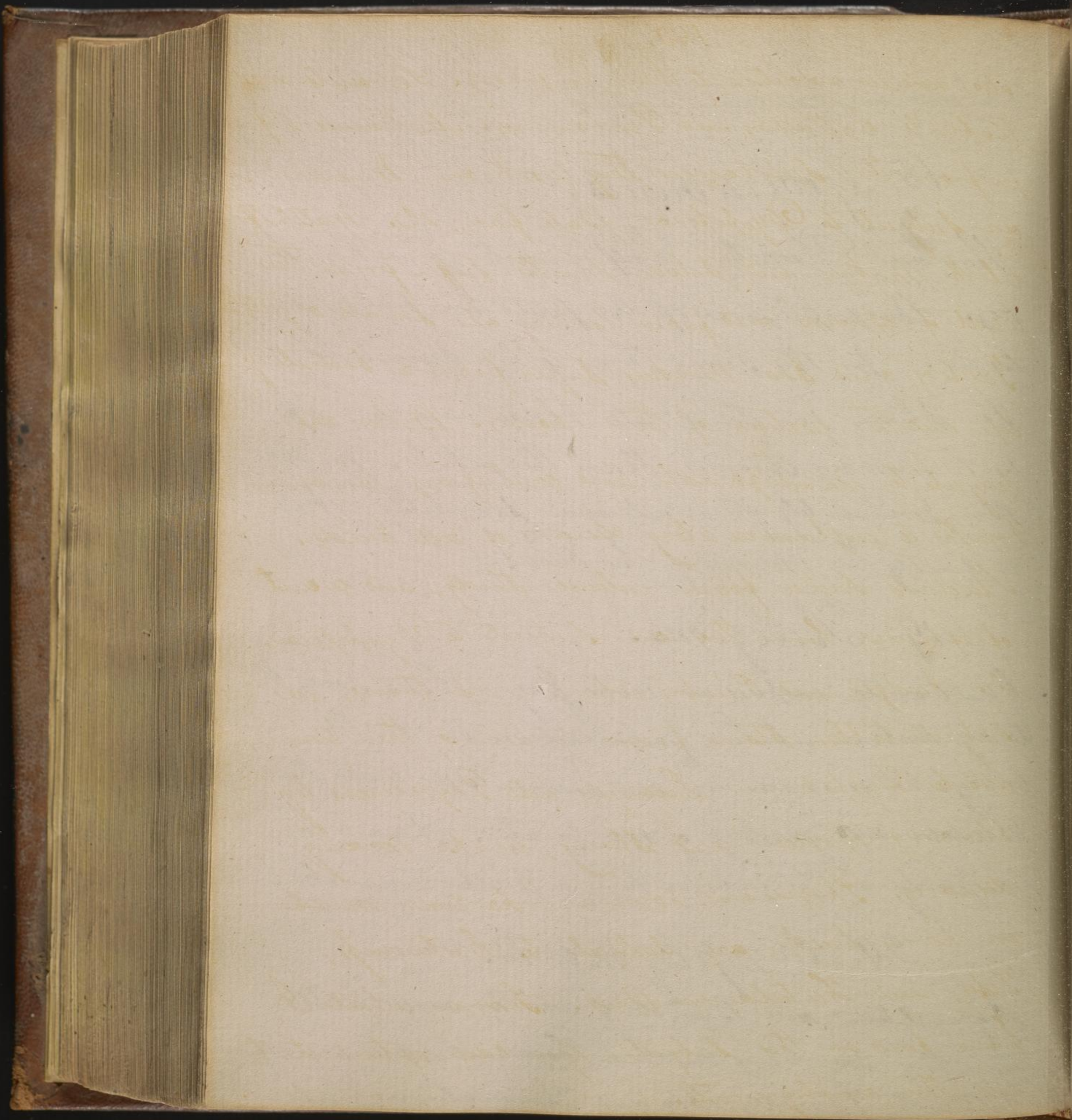
There are Despotie, half Despotie, and Republics. The influence of the first has been mentioned. In the second there is less sensibility; the Slaves in the West Indies are more affected with Nervous diseases, than the whites. In the third Irritability prevails over sensibility, which is exactly the cause of the second.

19. Religions.

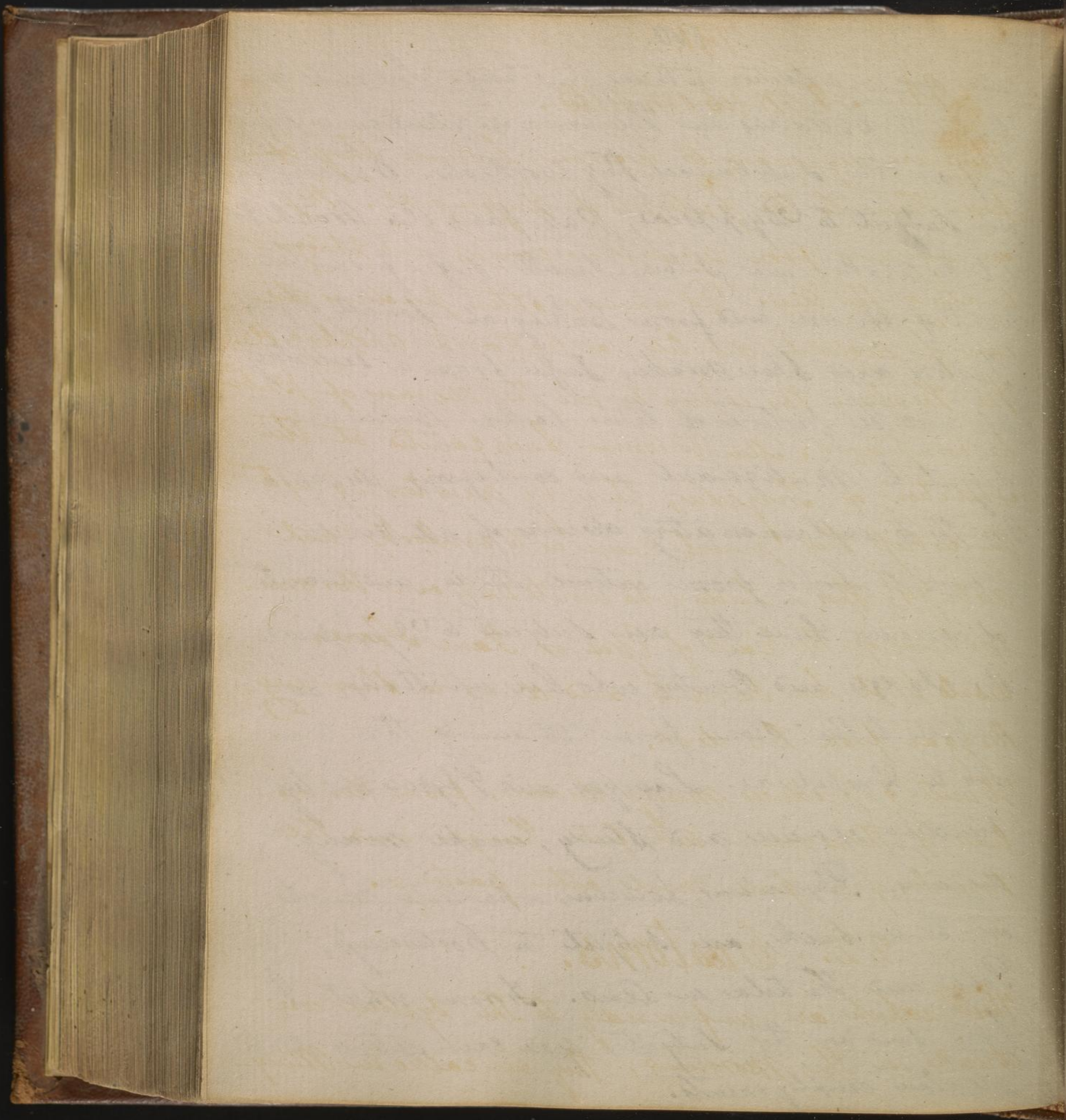
Christianity inspires us with Joy, Hope, Love, &c. Every doctrine which is unfavourable to Health should be rejected as erroneous, and inconsistent with the wisdom and goodness of our Creator. Man is as much a Religious as he is a Social animal.

20. Employments.

Agriculture and Building are the most healthy, but they sometimes induce Fever. Soldiers are affected with Fevers, Dysentery and Rheumatism. Sailors



also, and in addition to them, Eruptions. Servants are liable to Catarrhs and Pneumonies. Mechanics suffer from the Substances they work on. Weavers are subject to Dyspepsia, Pale faces, &c. Watch & Clock Makers and Silver Smiths suffer from the want of exercise and from looking at small objects. Taylors and Shoe Makers suffer from a sedentary life and the posture of their bodies. Bakers are subject to Malignant and contagious diseases. Smiths to inflammatory diseases of all kinds. Students suffer from intense study, and want of exercise; hence they are subject to Dyspepsia, &c. Judges, and Printers who live up stairs, are subject to the Stone, from retaining their urine, also to Dyspepsia. Lawyers and Physicians by blending exercise and study, escape many diseases; Physicians, however, who ride much on horse back, are subject to Bortiveness, Piles, and Fistula in Ano. From what I have said on this subject, you can extend it to all other employments.



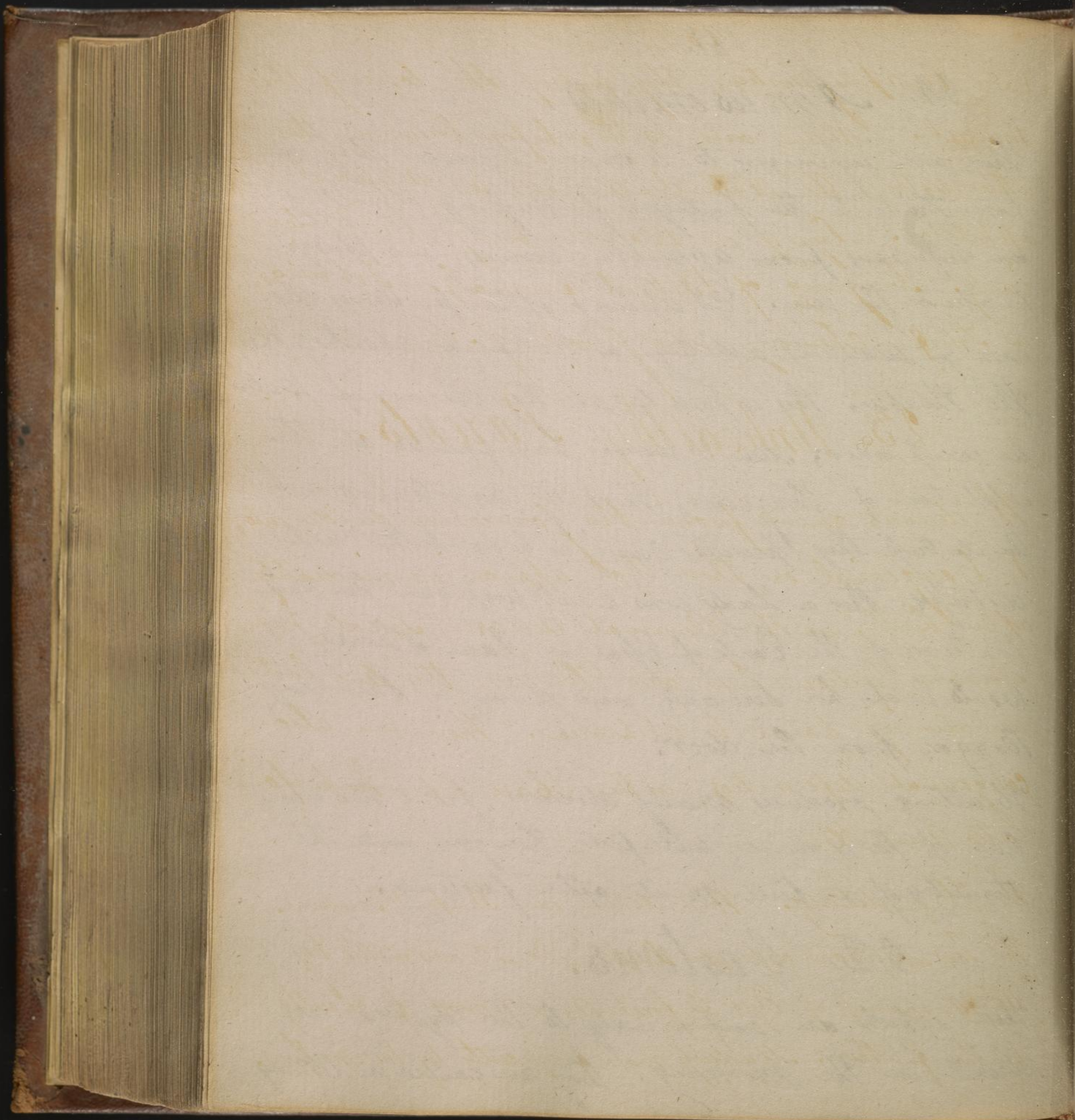
21. Amusements.

These are injurious to women because they expose them to the fatigue of dressing, &c. They are injurious from assembling crowds and phlogistinating the air. Dancing often produces diseases of secret debility, as Catarrh, apoplexy, &c. The Theatre, this is prone to all the diseases of Public companies; Men & women have fainted at the exhibition of Tragedies, thus by amusing us to the distress they present cause us to overlook real distresses; thus a Lady who would weep over the misfortunes of the Earl of Essex or Jane Shore, would beat her servants, and drive a shivering Beggar from her door.

Hunting produces many diseases, from the violence of the exercise, wet feet, Hunger, and the stimulus of a full meal after fasting.

22. Customs.

Those which are unfriendly to the system are drink, in the morning, they are called in Mary-



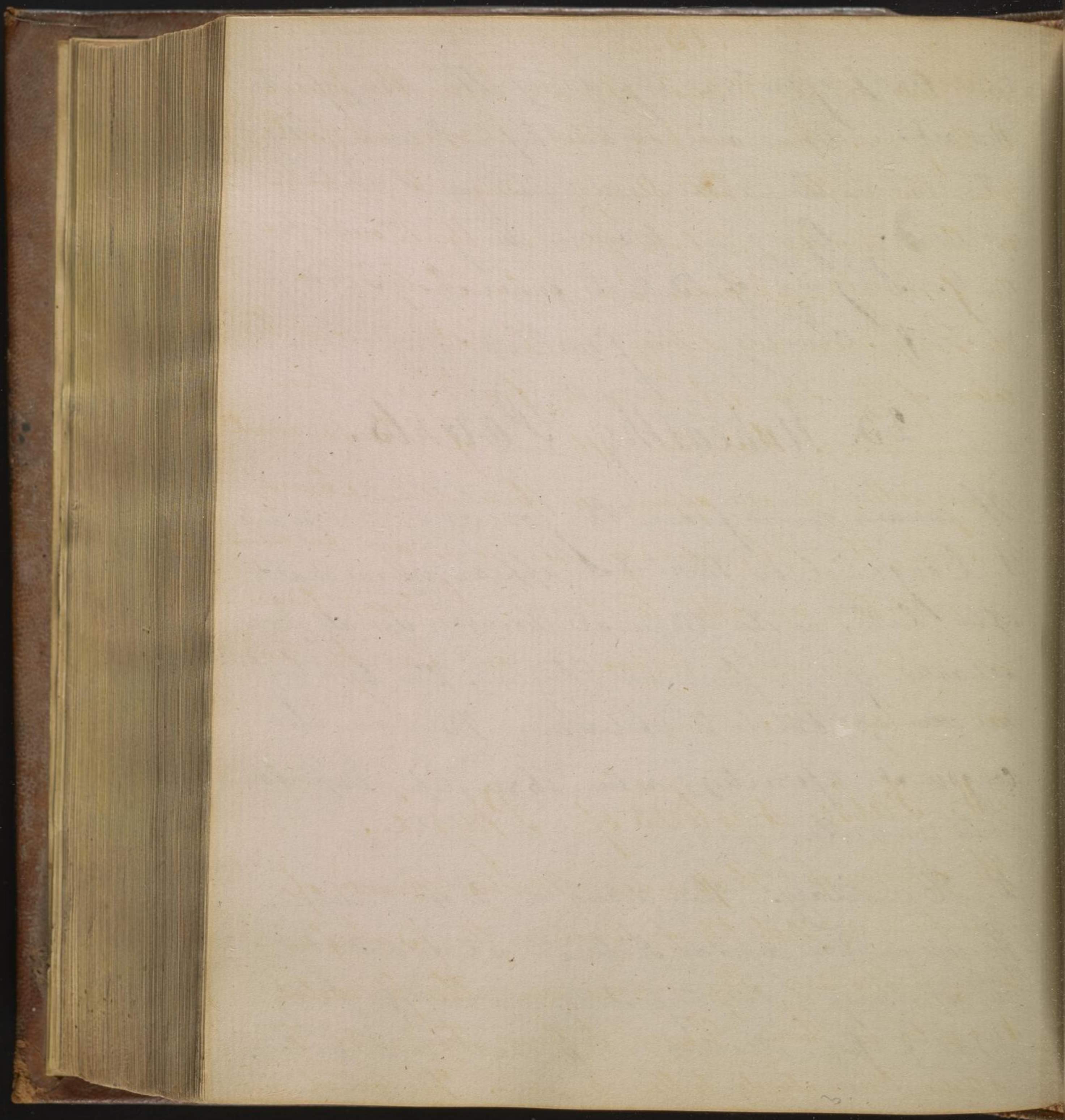
Lard Antiphlogmatic; they destroy the tone of the stomach. Wine and Bitter before Dinner, this either destroys the natural, or creates an artificial appetite. Lying in Women being visited too early. Ringing of Bells at funerals. Tobacco, in Snuff, chewing, and smoking.

23. Unhealthy Parents.

The diseases derived from this source are divided into, 1, Congenial or those that appear immediately after birth, as the Venereal disease, Small pox, Measles, Yellow fever and Plague; the two last are always fatal to children. There are also congenial deformities, as the Hare-lip, Imperforated Anus, &c.

2, Hereditary. These depend on Shape & Temper.

The Consumption depends on Shape, and is transmitted by the sameness of Eyes & forehead, and most frequently by the Father; Madness most frequently by the Mother.



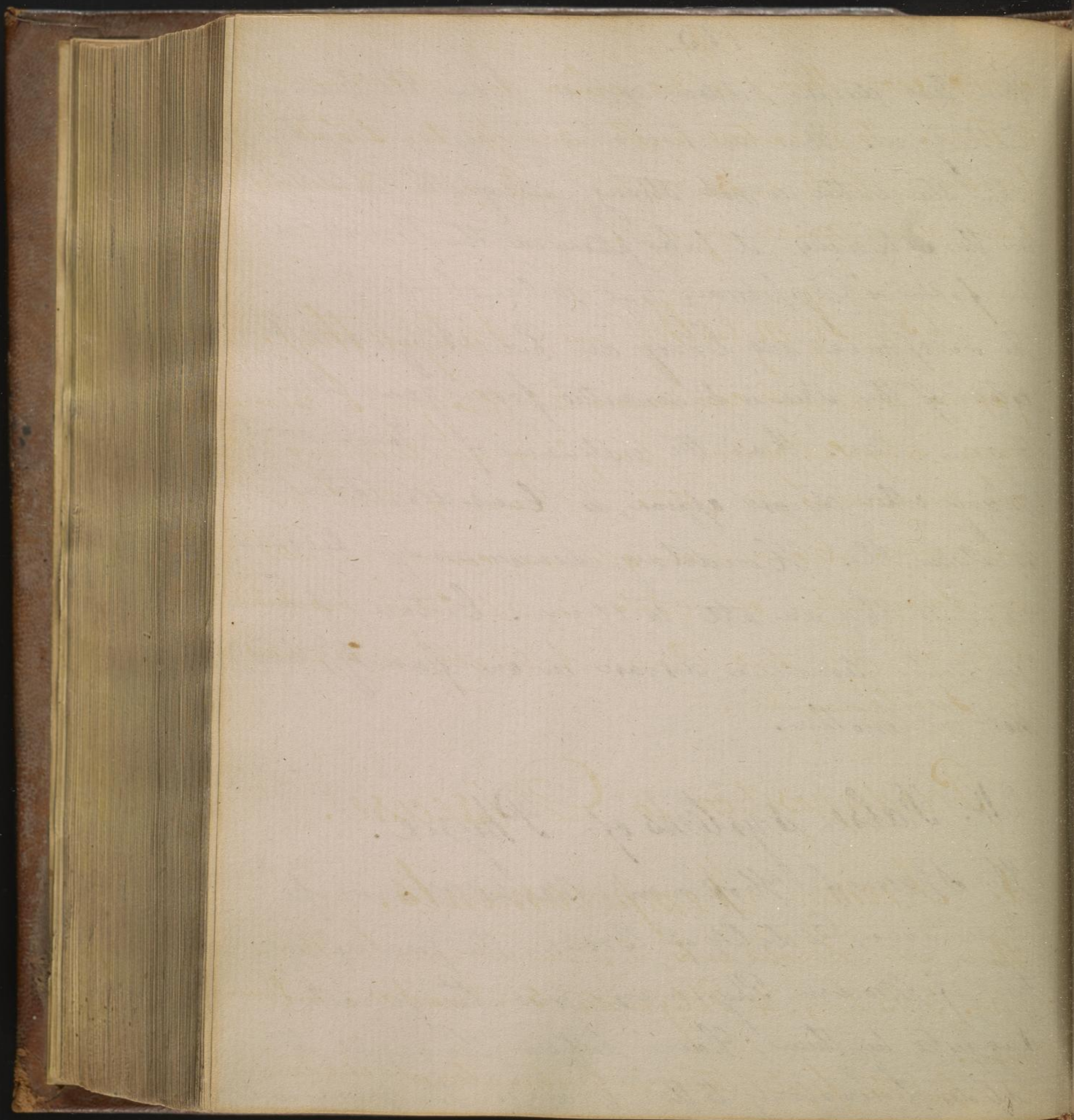
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Then two diseases seldom appear before the twentieth year. There are two others, Dropsy and Gout. When the latter is not strong enough to appear in the extremities, it takes place in the Bowels in the form of Dyspepsia, and Melancholy, &c.

The Scrophula and Leprosy are Hereditary, and the colour of the Skin is transmitted from generation to generation. From the influence of Temperament many other diseases appear, as Head-ach, Rheumatism, &c. Hereditary diseases may be cured, but they are apt to recur. Certain Remedies will remove a disease in one family, and not in another.

24. False systems of Physic.

The Spasm of Hoffman, Morbid Humors of Boerhaave, Debility of Brown, the Putrefaction of Modern Physicians, and the practice suggested by them, have suffered thousands to slide prematurely to the grave. The great evil



arising from them, is too close an attachment to them. To practice with Suijs, we should borrow a little from each. Quack Medicine have done much injury.

25. Sympathy and Antipathy.

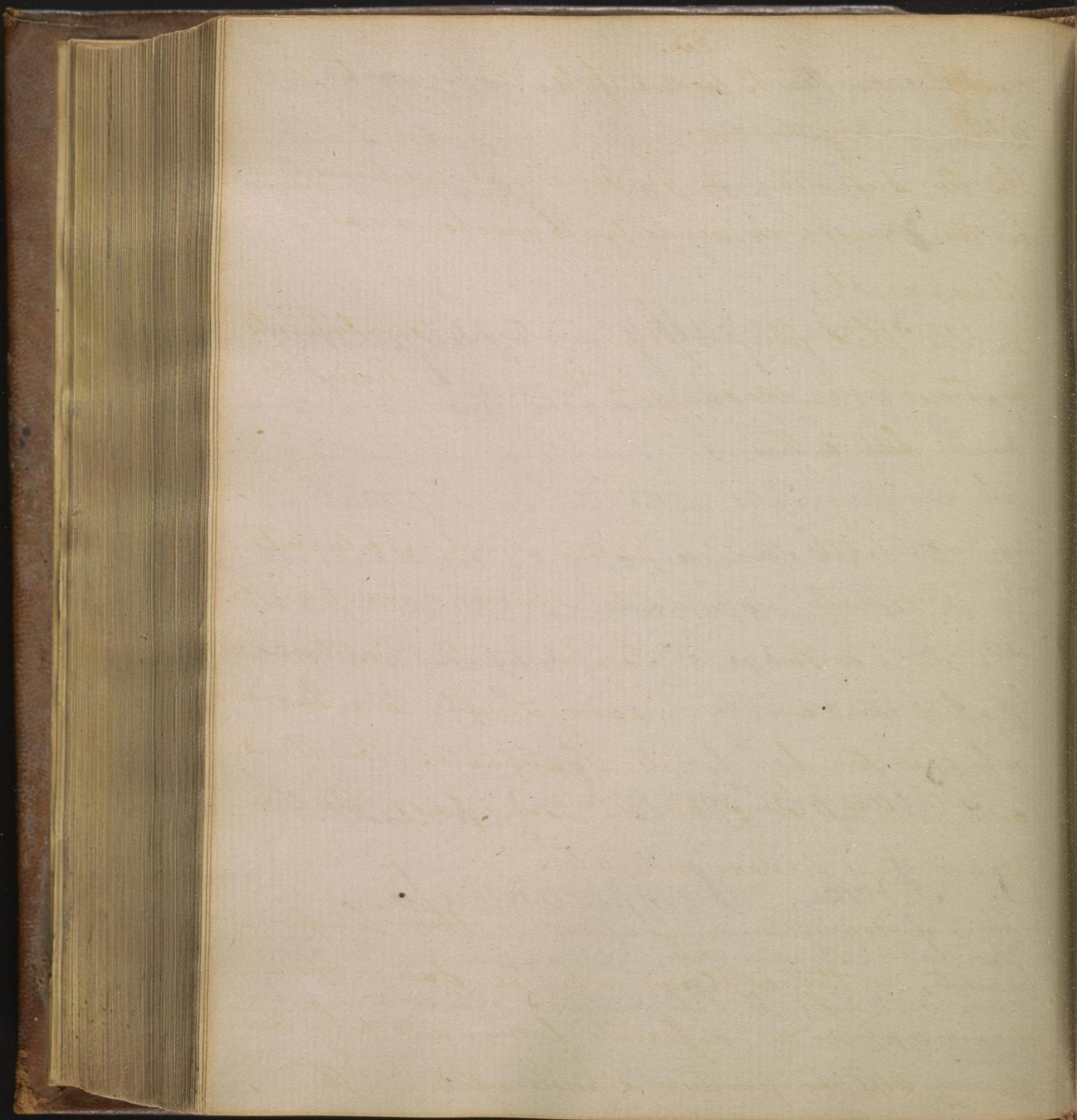
Gaping is readily communicated through a company, as by contagion; Laughing and weeping are communicated, altho' the Cause of them be unknown. Convulsions also are communicated by sympathy, one Child in Epilepsy produced it in an Hundred, &c. - Antipathy is acquired by Substances, &c.

Predisposition to Disease.

1. From Temperaments.

There are divided into, 1. Sanguineous, 2. Nervous. 3. Bilious. 4. Phlegmatic. 5. Muscular. 6. Putrid.

In the first there is putrid natural excre-



ment in the Blood Vessels, disposing to Inflammatory diseases.

In the second there is preternatural excitement in the Nerves, disposing to Hypochondriasis, Mania, &c.

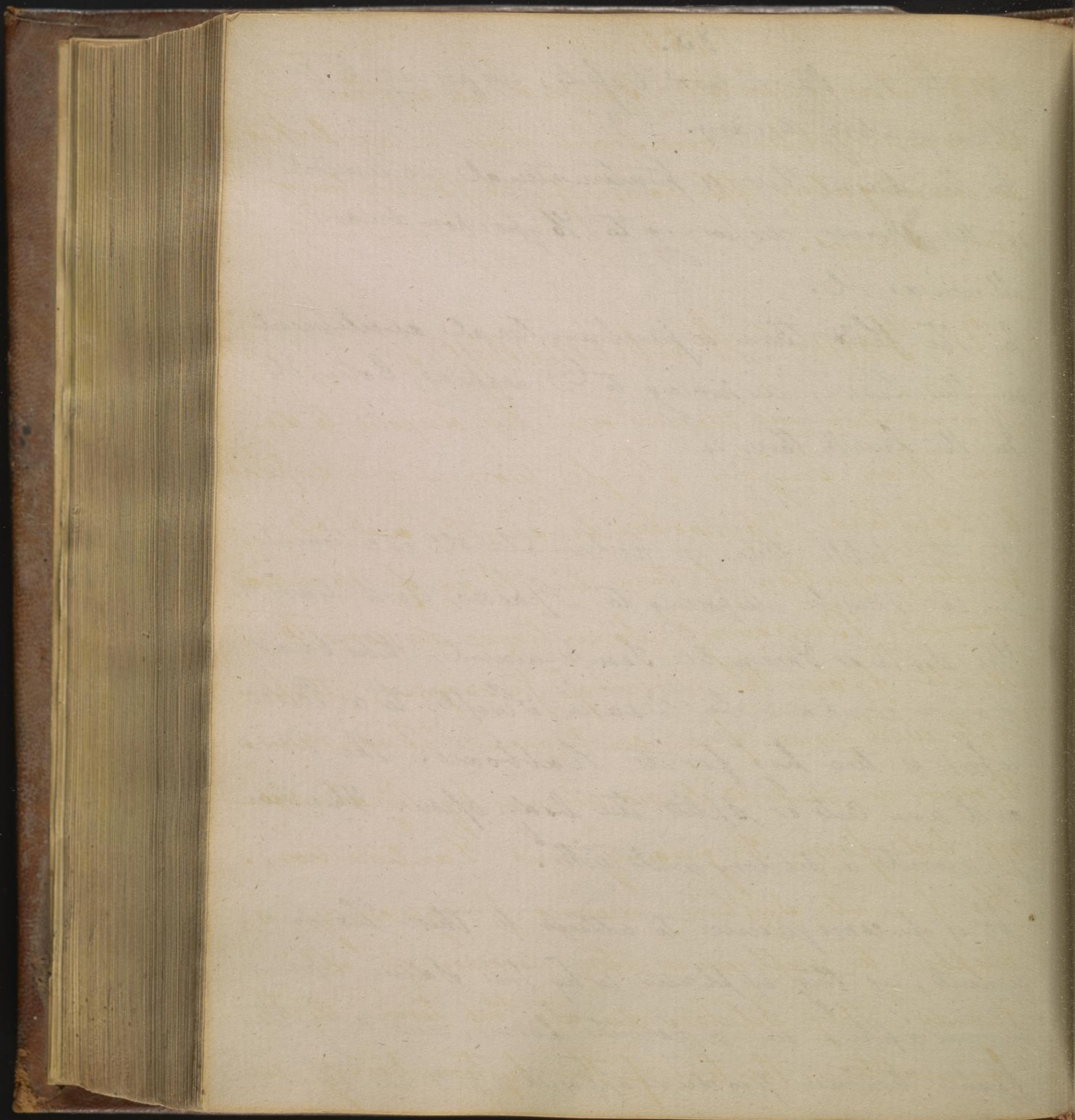
In the third there is preternatural excitement in the Liver, disposing to Diarrhea, Colic, &c.

In the fourth there is

In the fifth there is preternatural excitement in the Muscles, disposing to Spasms, Convulsions, &c.

The Sixth or Phrenetic Temperament, has been happily compared, by Dean Swift, to a Sword which is too big for its Scabbard; The Mind as it were cuts or splits the body open. This Temperament is seldom met with.

It is of consequence to attend to these Temperaments, as they explain why the same Epidemics appear in different forms, and why the same Remedies produce opposite effects in them.



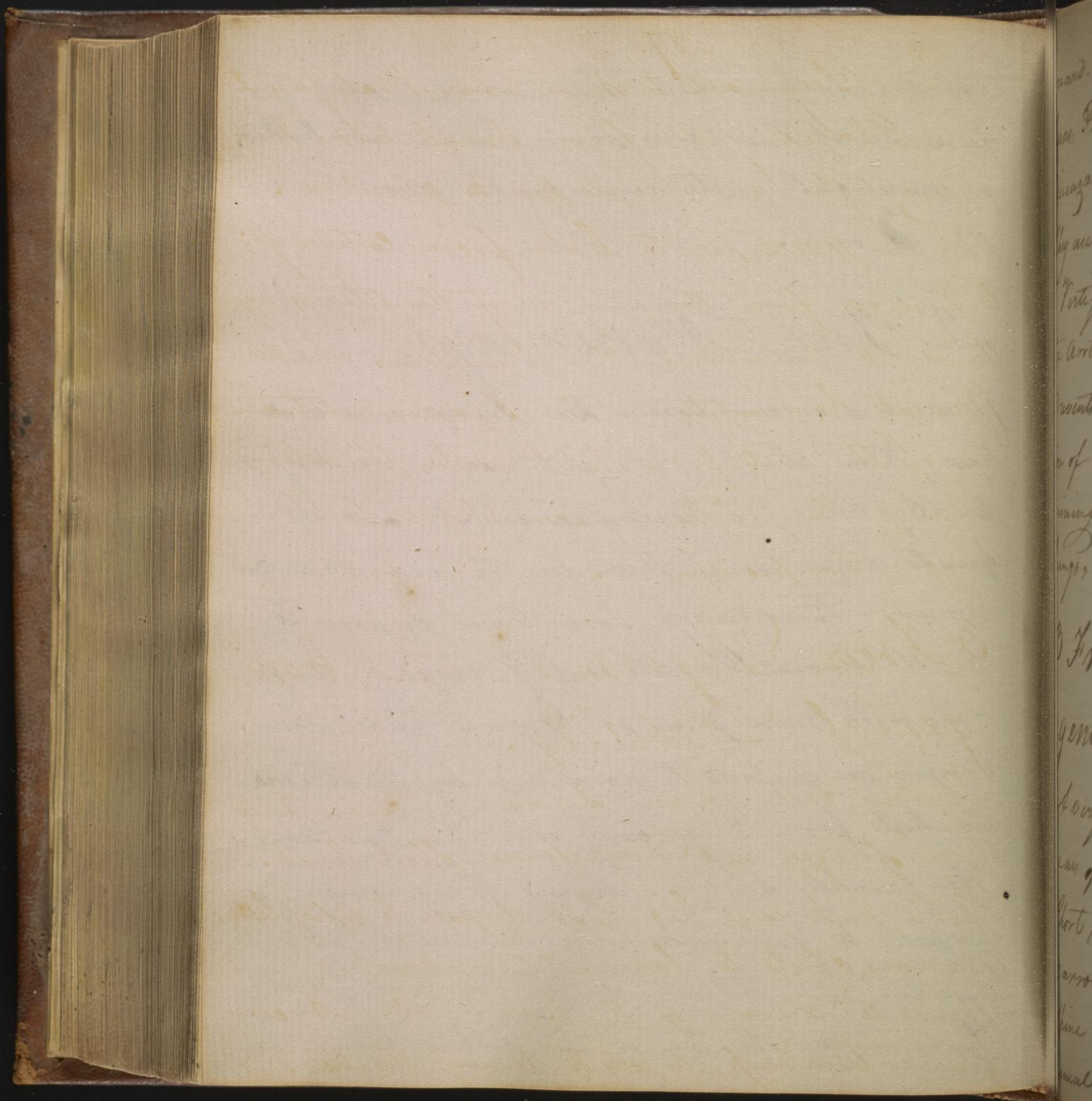
Then Temperaments succeed each other in the course of life, and should never be overlooked in investigating the cause of, or prescribing for, diseases.

2. From Matrimony.

Married men and women are less disposed to die, than Single. Single women are disposed to Hypertonia, Hypochondriasis, &c. and a greater proportion of them die, than of married women. Barrenness sometimes disposes to death, from the desire of progeny, it operates with more force on women than men.

Women are disposed to no disease by Matrimony, but from Pregnancy and Parturition.

The female System, during Pregnancy, is disposed to inflammatory diseases of all kinds. They seldom die at this time with Consumption, the tone of the system being in-



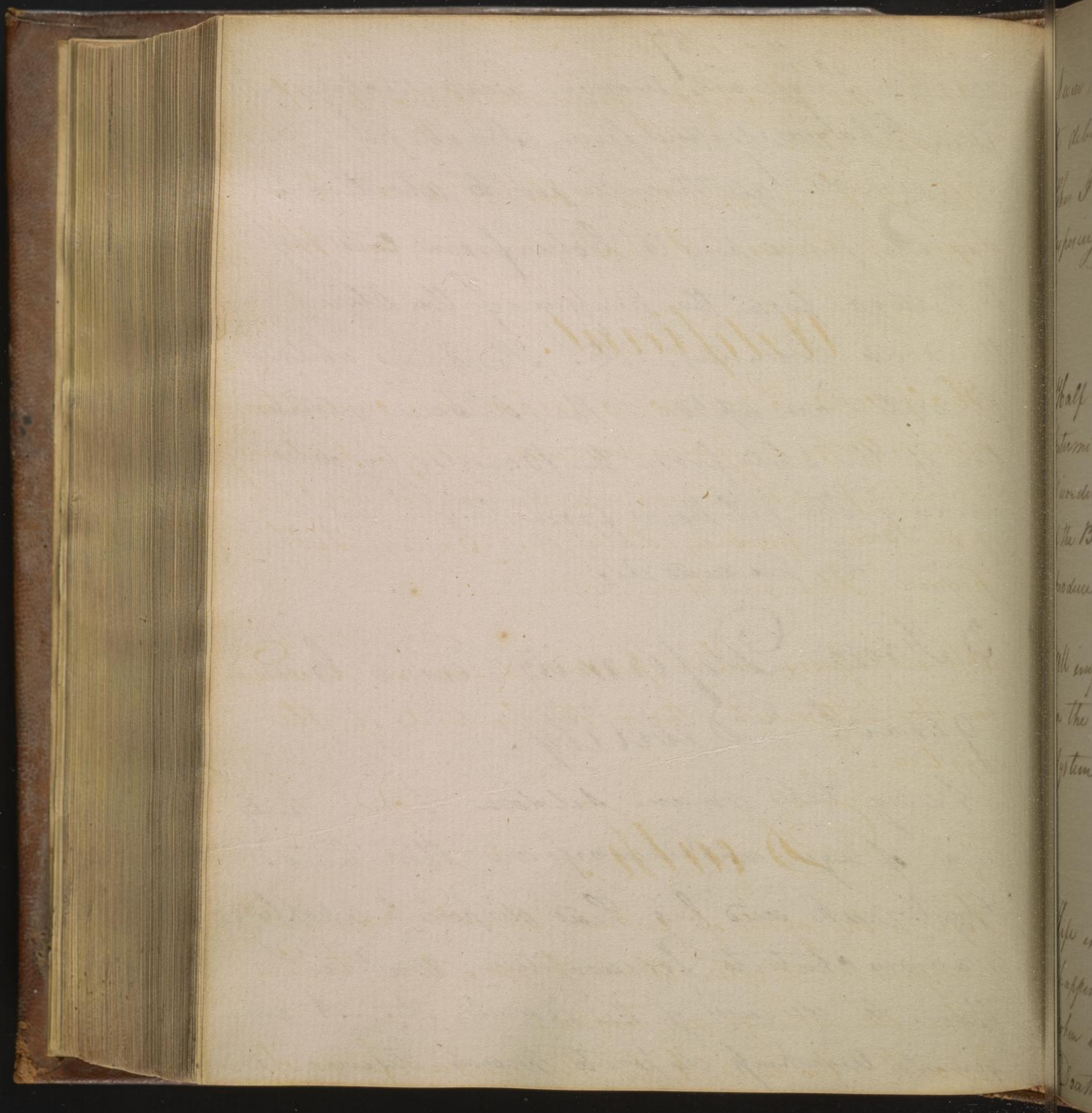
and. Pregnant Women Have Malignant
fevers, Plagues, yellow fever, Small pox, In-
fluenza, &c. all these dispose to abortion.

They are predisposed to Colic, from costiveness;
to Vertigo, from the pressure of the uterus on
the aorta descending; &c. Suckling children
prevents Consumption: The sudden abstrac-
tion of the milk from the Breast, by deter-
mining the plethora from thence to the
Lungs, has produced it.

3 From Deformity and Con- genial Debility.

A very tall man seldom reaches thirty
years of age, and Dwarfs are short lived.

Short neck and big head dispose to Apoplexy;
narrow chest to Consumption; crooked
spine to diseases of the Bowels; &c. A con-
genial weakness disposes to many diseases. A



188.

Seven Months child generally brings with it debility.

Thus I have mentioned the natural predisposing causes, I shall now mention the

Artificial.

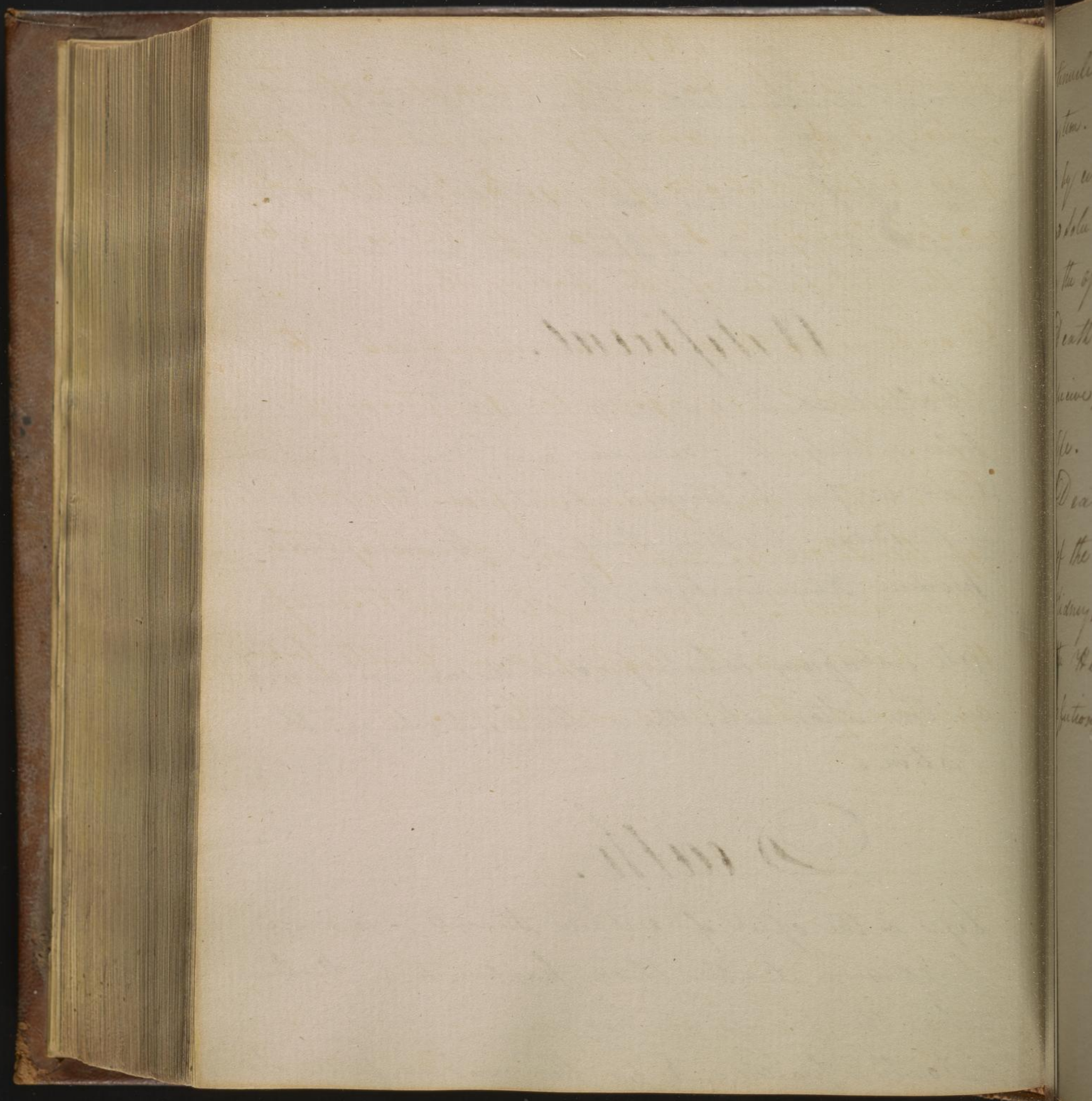
Half cured Pneumonia disposes to Consumption; Intermittents, to Jaundice and Dropsy. Certain Disorders produce disease, Water in the Ventricles of the Brain produces Palsy, &c. Various Faults produce Rheumatism, &c.

All impressions which produce disease are discovered in the Stomach, this is the Centre of the system.

Death.

Life is the effect of certain Stimuli, no more happens in death, than happens to a Violin when the strings are broke.

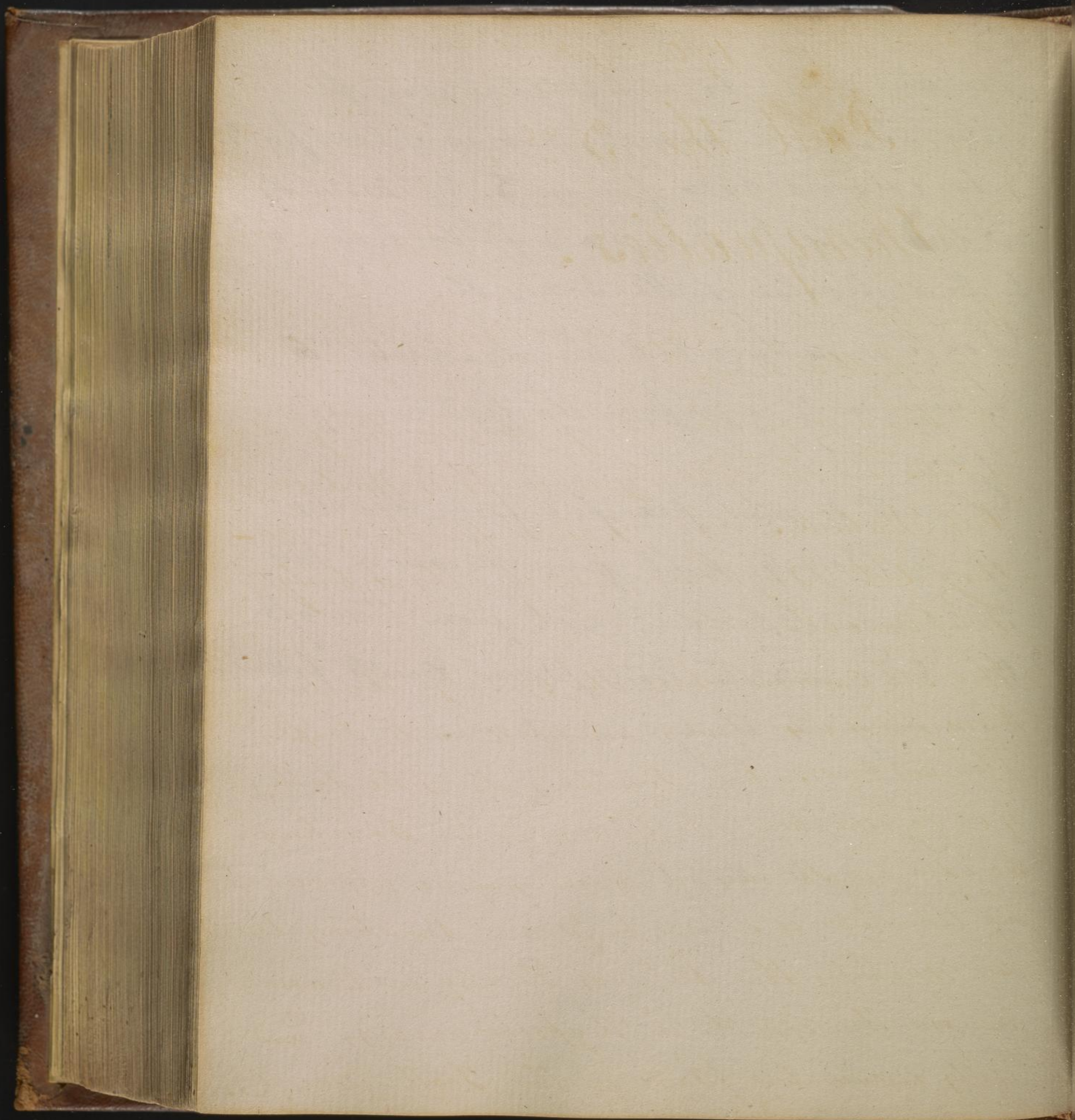
Death is produced, & by the expulsive force of



stimuli. 2, by too much relaxation of the system. 3, by the error of fluids in certain parts. 4, by certain vitiated fluids. 5, by wounds and solutions of the solid parts of the body. 6, by the ossification of the solids, &c.

Death is nothing but an incapacity to receive, emit, or perform the functions of life.

Death is most painful from diseases of the Bowels; next from diseases of the Kidneys and Bladder; next from those of the Head; and the least pain results from affections of the Lungs and Liver.



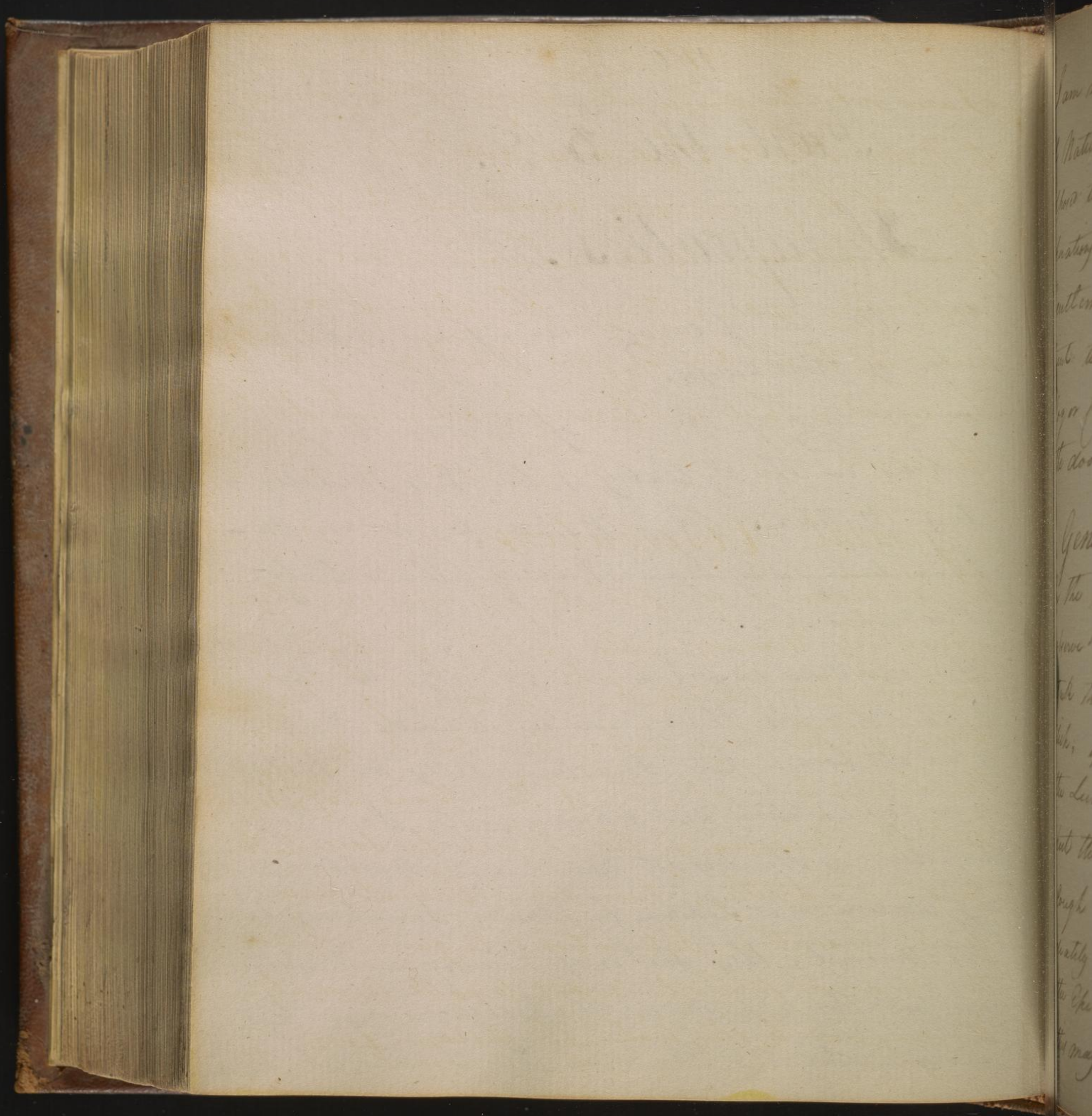
Part the 3rd.

Therapeutics.

This is the art of curing diseases from a knowledge of their Causes.

In treating of the cure of diseases the first article in the Syllabus is the *Vis Medica-
trix Naturæ*. By Nature we mean no-
thing but physical Necessity, this is truly
Mechanical.

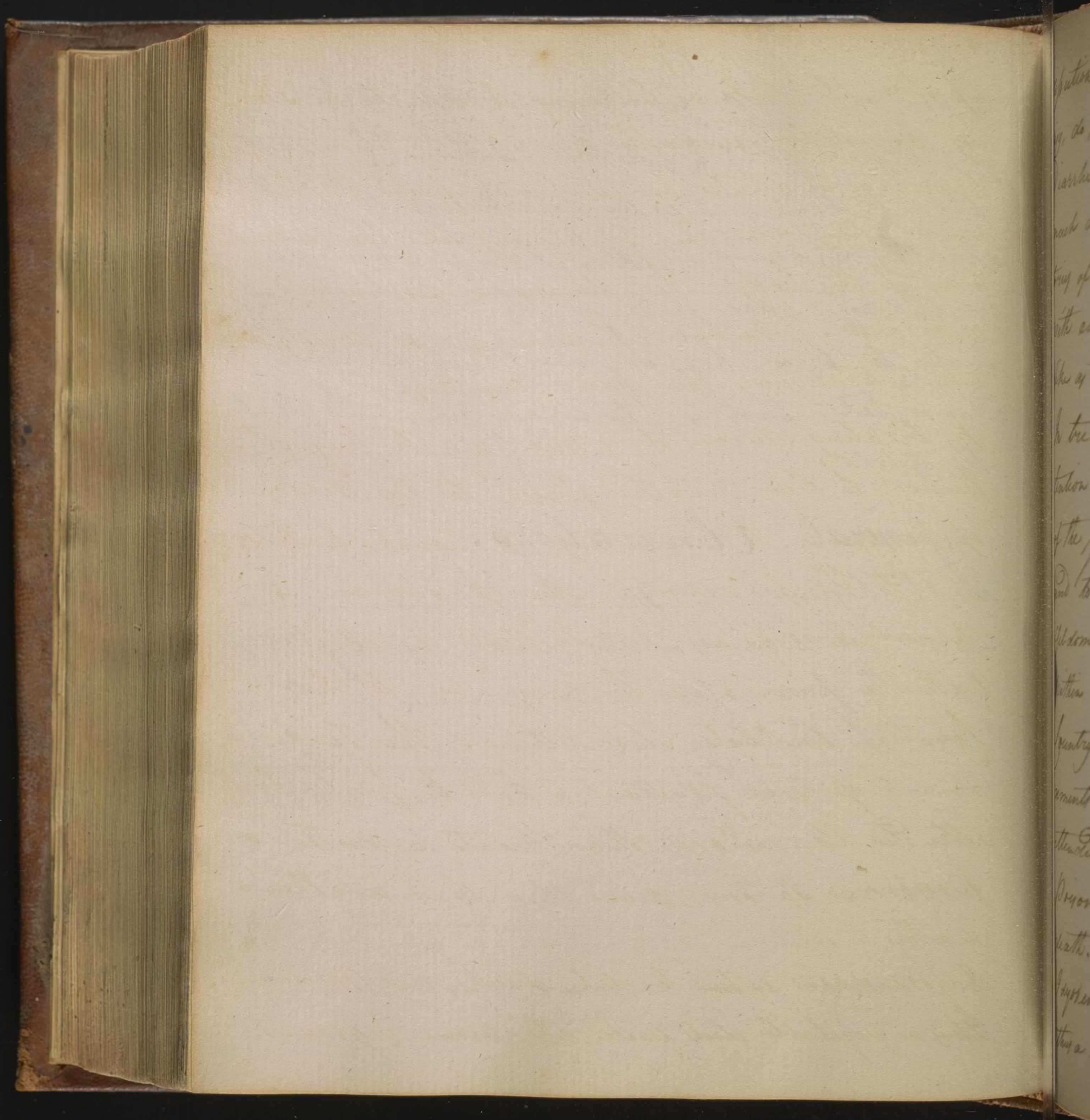
There are cases in which she operates, thus in
Fever she excites thirst; and in Wounds, supplies
flesh and bone; but sometimes she is too feeble,
as in Consumption and Chronic Gout; sometimes
too idle, as she does not warn us of an approach-
ing Aneurism or Schirri, by pain; sometimes she
does mischief, thus she ends Pleurisy in Vomica,
increases the appetite in Hypochondriasis, and
excites excruciating pain in the Tooth-ach, &c.



I am not the original enemy of the Power of Nature. Drs. Sydenham and Willis were opposed to her, and as we cannot admit of her operations in curing disease, I would advise you Gentlemen upon entering the room of a patient to treat her as you would a noisy Dog or cat, that is, turn her out, and shut the door.

General Observations.

In the beginning of Mortal Epidemics in Cities, observe the Manners in the Country; if they attack the poor, attend to the Manners of the rich; if the body inclines to a Cough, suspect the Lungs to be affected; if the Head aches, suspect the Brain; if the Throat be sore with Cough and Spitting, pour down Calomel immediately to excite a Salivation. Enquire whether the Epidemic prevails among domestic Animals; this may tend to illustrate the disease, from

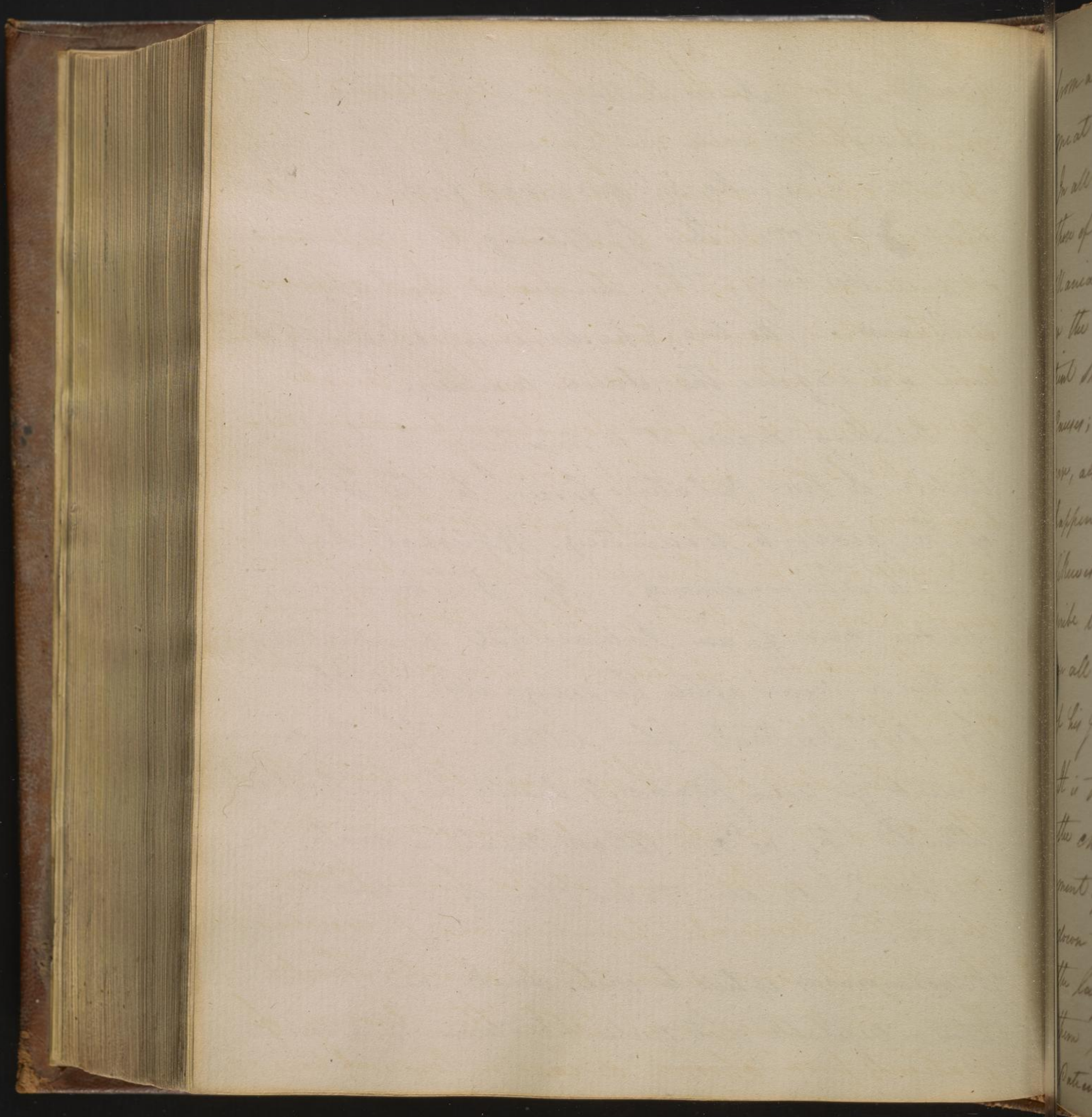


192.

disposition, &c. In a tendency to sweat in Pleu-
risy, do not lay aside the Lancet, &c. The cure of
Diarrhea is effected by discharge from the Sto-
mach and pores; thus by opening all the emune-
tories of the body; the disease is discharged
with ease. No two Epidemics are so exactly a-
like as to require the same Remedies.

In treating diseases it is necessary to pay at-
tention to their Relative force, to the Season
of the year, to Country, National habits,
and to Temperaments. An Irishman is
seldom cured of an Intermittent if attacked
within a year after his migration to this
Country, without blood-letting. The Temper-
aments of your Patients should be particularly
attended to, as "one Man's meat is another's
poison"; so one Man's Remedy is another's
death.

Idiosyncrasies of food, drink, and Medicines,
thus a vegetable diet will not recover a man

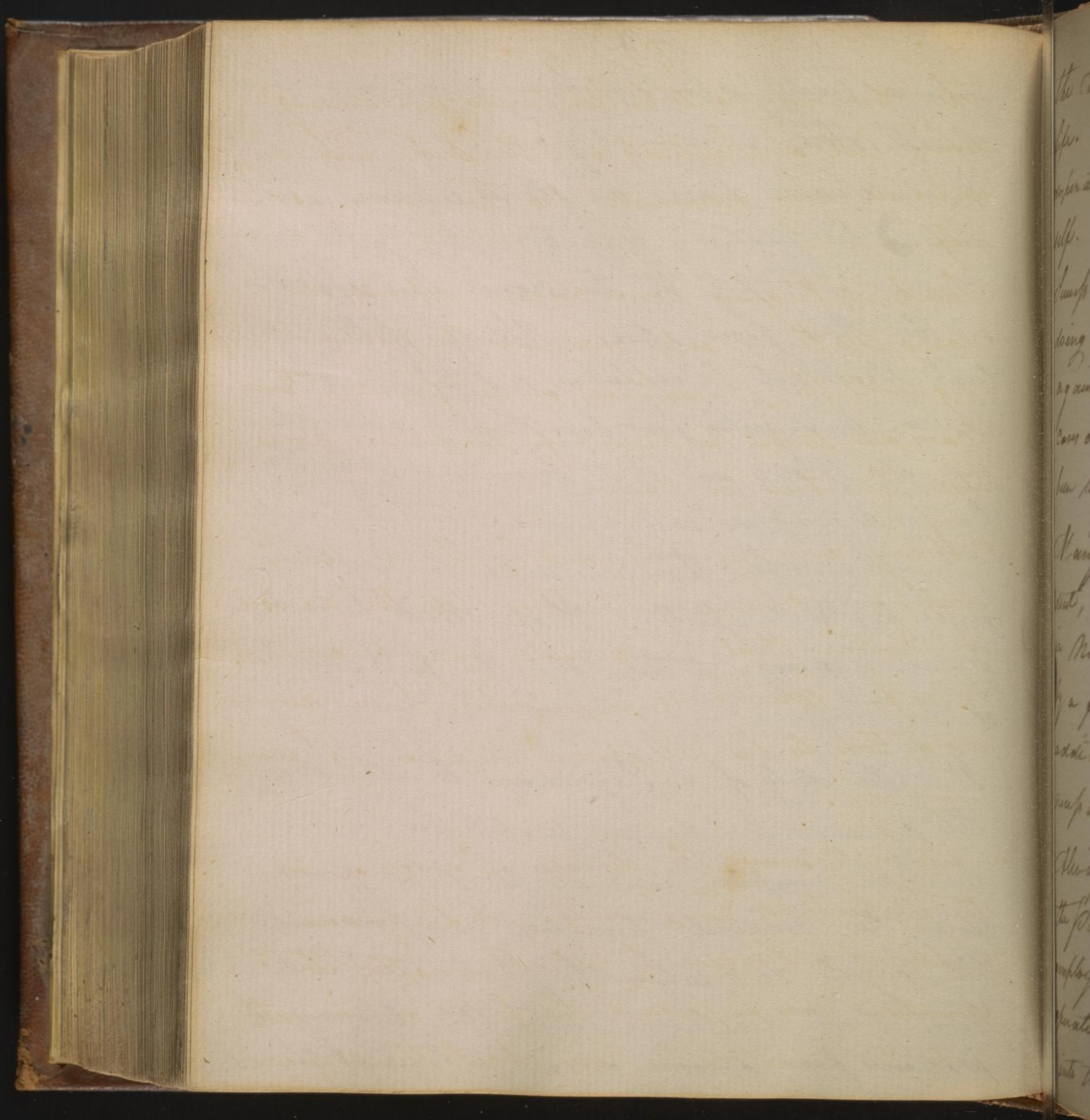


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from a Jew, who has been accustomed to
meat three times a day.

In all chronic disease we should enquire into
those of the patient; Ancestors; The Gout and
Mania often pass by the second and appear
in the third generation. The age of the pa-
tient should not be overlooked, nor the remote
causes; Undigested food sometimes produces dis-
ease, also Blows, and that sometime after they
happen; excess in eating, and Mortefas priole
likewise; when these are unknown we pre-
scribe without effect. Hope should be inspired
on all occasions, to this, Dr. Cullen owed much
of his success.

It is the duty of a Physician to attend to
the changes in disease, watch for the mo-
ment of remission, and at this time pour
down the Cordial Remedy, and prescribe
the largest doses when the patient thanks
them least necessary. After the recovery of
patients from chronic disease, as Consumption, &c,

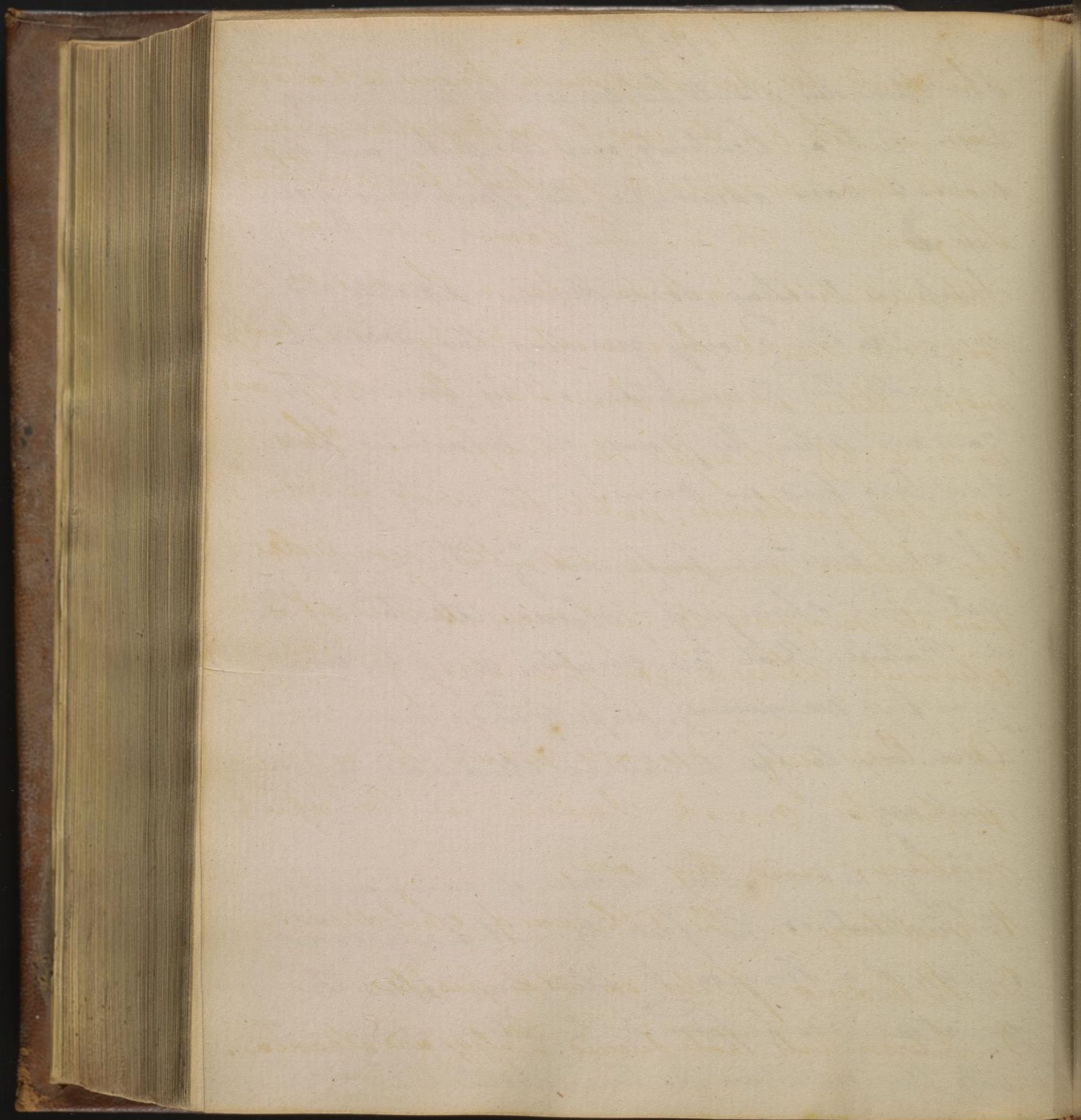


the Remedies should be continued, even during life. Act as Gentlemen over the Sick, and in desperate cases administer the Medicines yourself.

Success in treating some diseases depends on doing nothing only guarding the patient against the prescriptions of his friends; these cases are when the powers of Medicine have been long tried in vain.

Many cures are performed by Time, Air, diet, and change of place. All the diseases in Nature that are curable, may be cured by a few medicines, properly used; hence any addition to the *Natural Medica* is unnecessary.

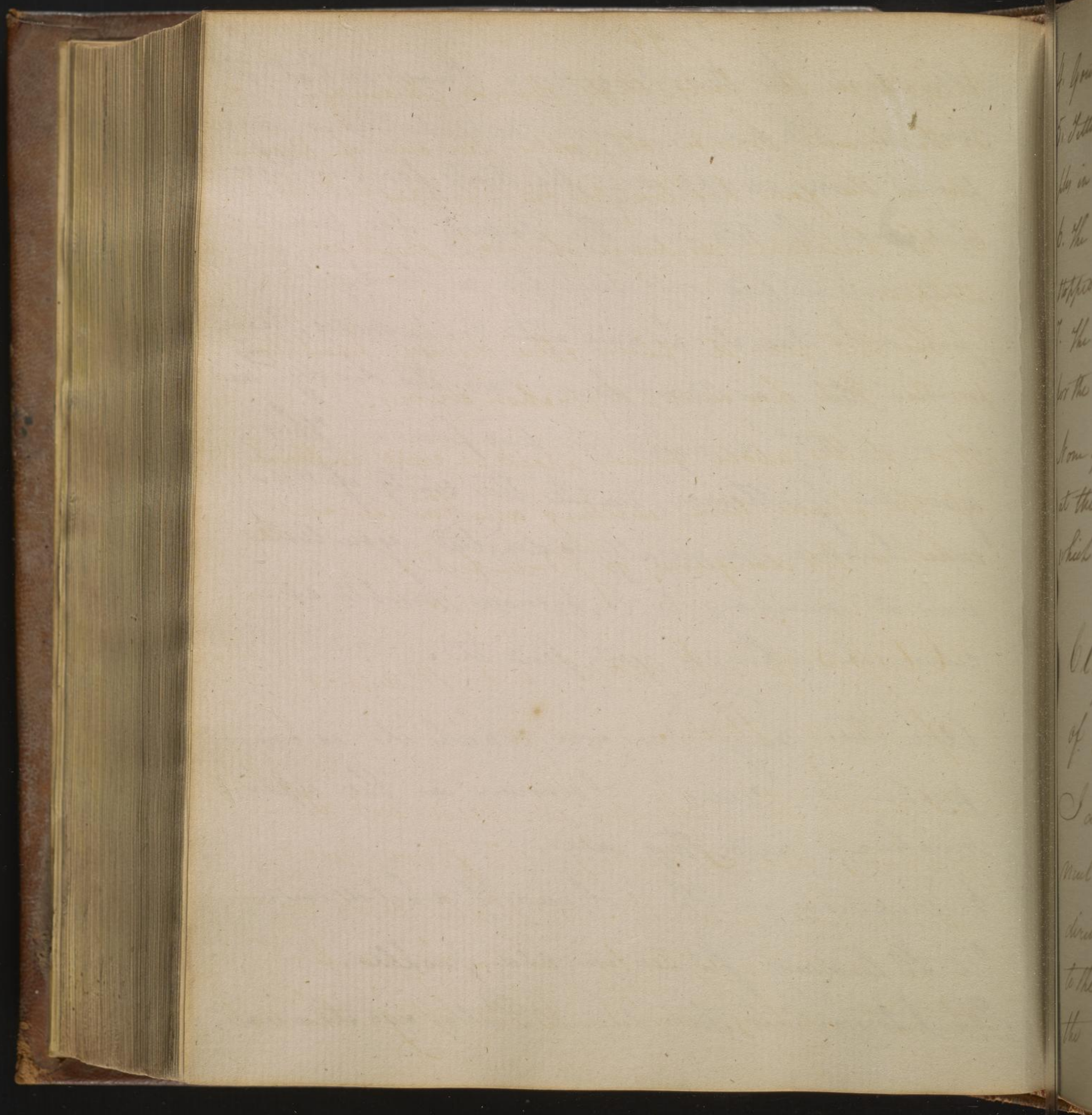
Always name the disease if called on by the patient or his friends. A Lady once employed a Surgeon to bleed her, after the operation was performed, the blood extravasated into the cellular texture about the orifice:



She sent for the Surgeon to know what it was, he told her it was of no importance and would soon disappear; She sent for another Surgeon, he told her the same; She was still dissatisfied and sent for a third, as soon as he saw it he cried out Ecchymosis, Ecchymosis; this is a Man Sense Sais the Lady, and immediately dismissed the two first. Thus you see Gentlemen, until the unity of disease becomes universally admitted, you will find it necessary to Ecchymosis morbid excitement whenever you find it.

Are there any Diseases which it is improper to cure? I answer in the affirmative, and they are,

1. Eruptions on the Heads of children.
2. Bleeding Piles in old people.
3. Intermittents that succeed Palsy and Mania.

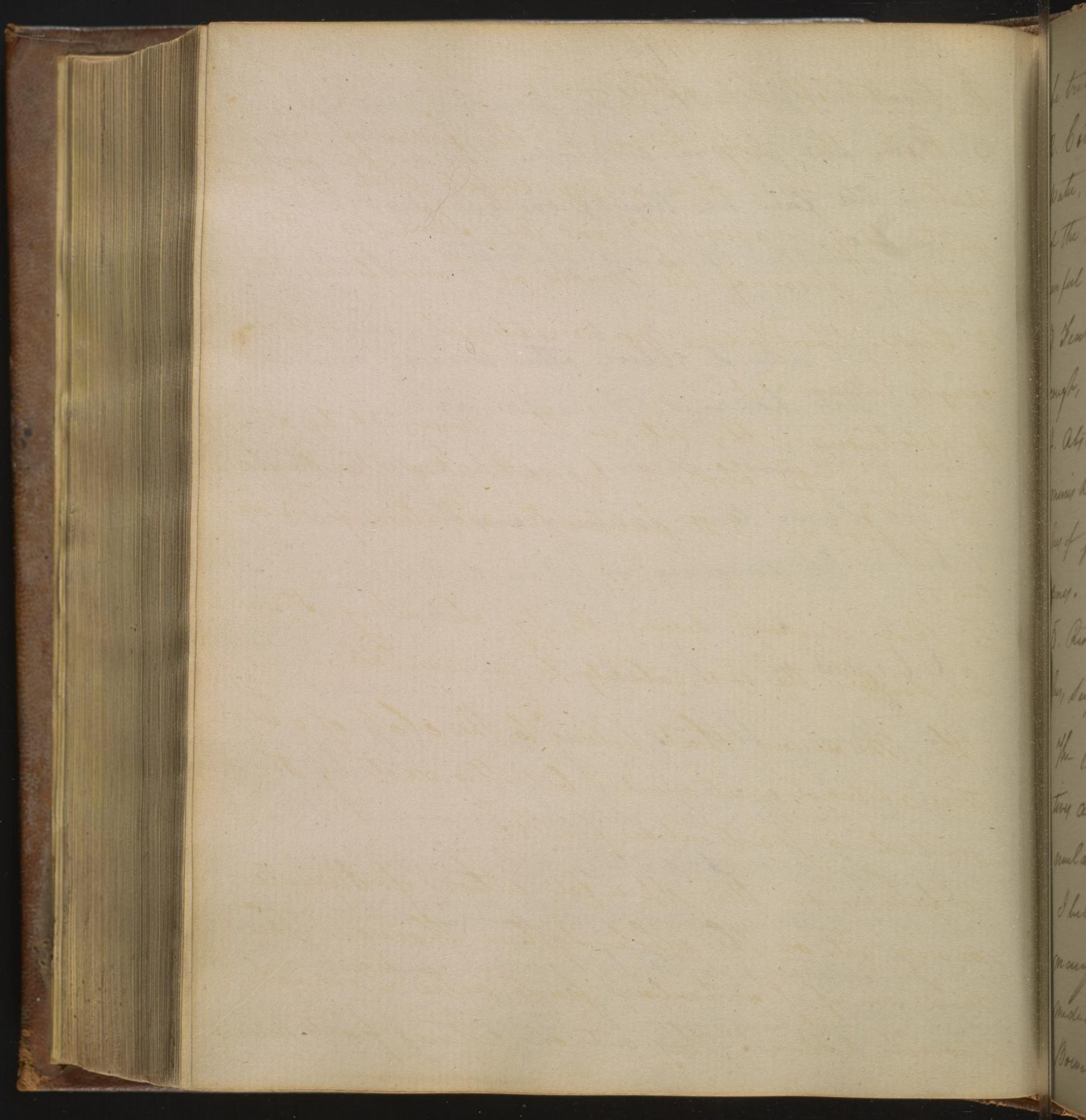


4. Gout in the limbs, that assumes Mania.
5. Itches and Sores in old people, the cure of pimples in the face has brought on Epilepsy & Palsy.
6. The habitual discharge of sweat should not be stopped.
7. The Itch when it relieves other diseases, Insultation for the Itch has cured Hypochondriasis.

None of the above diseases should be cured without at the same time exciting another disease which is less dangerous, or Painful.

Classes of Medicine and Manner of using them.

I divide the Remedies for diseases into Stimulants and Sedatives, the former are direct and indirect. I shall, contrary to the Method adopted by Gallen, begin with the Sedatives, and 1. Blood letting, this will



be treated of hereafter.

2. Cold, this may be used in the form of Air, Water, and Ice. It is always useful when the heat of the body is above 96° , and the skin dry. It is useful in diseases of the Muscles, as Bone Achs, &c.

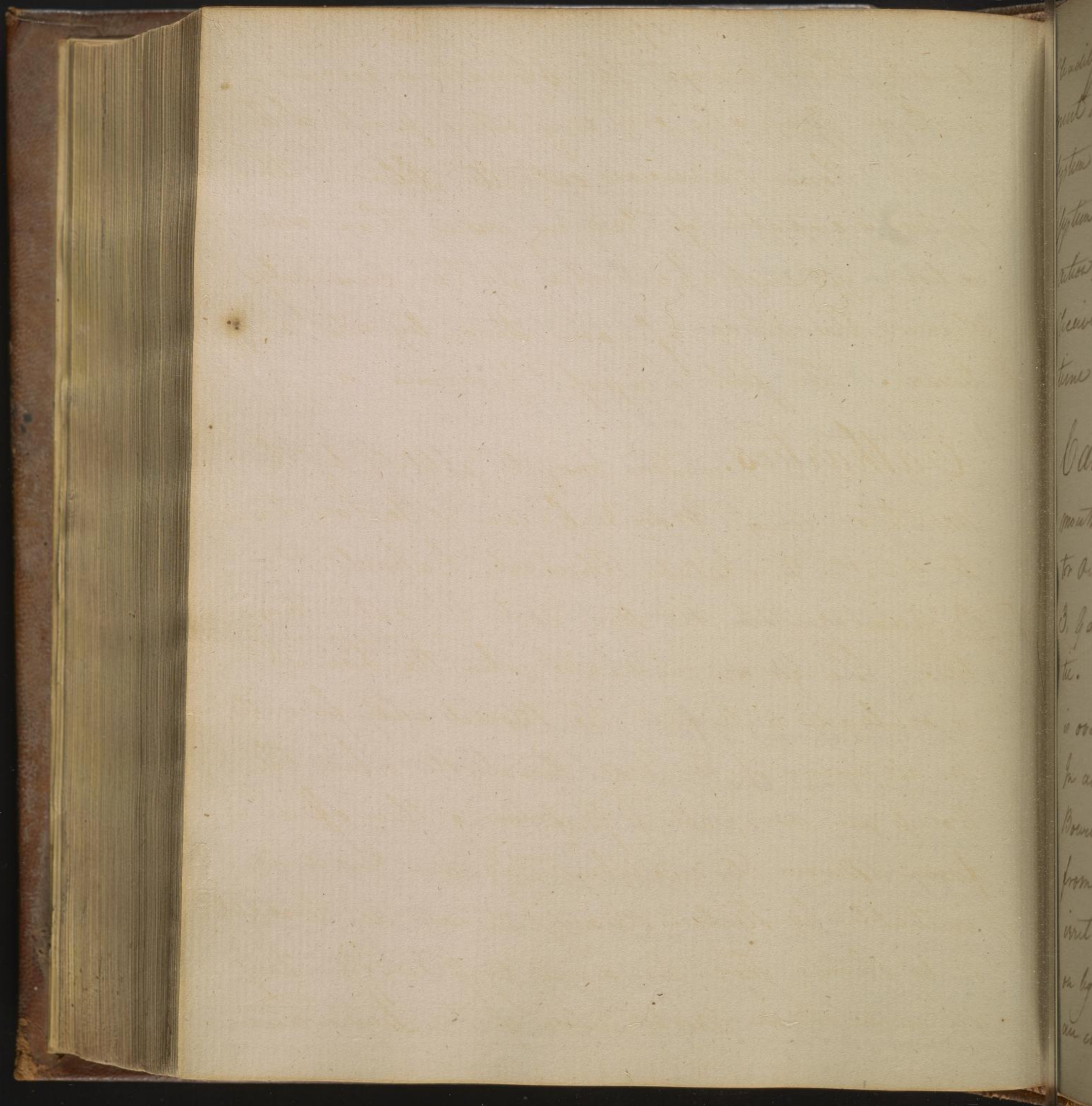
3. Fear. This reduces Morbid excitement, as in Whooping Cough, Mania, &c.

4. Abstinence. this acts in three ways, 1, by diminishing the blood, 2, by abstracting the stimulus of Food, and 3, it favours the operation of Medicines.

5. Quiet, darkness, Silence, &c, by abstracting Stimulus, suppresses the excitability to accumulation.

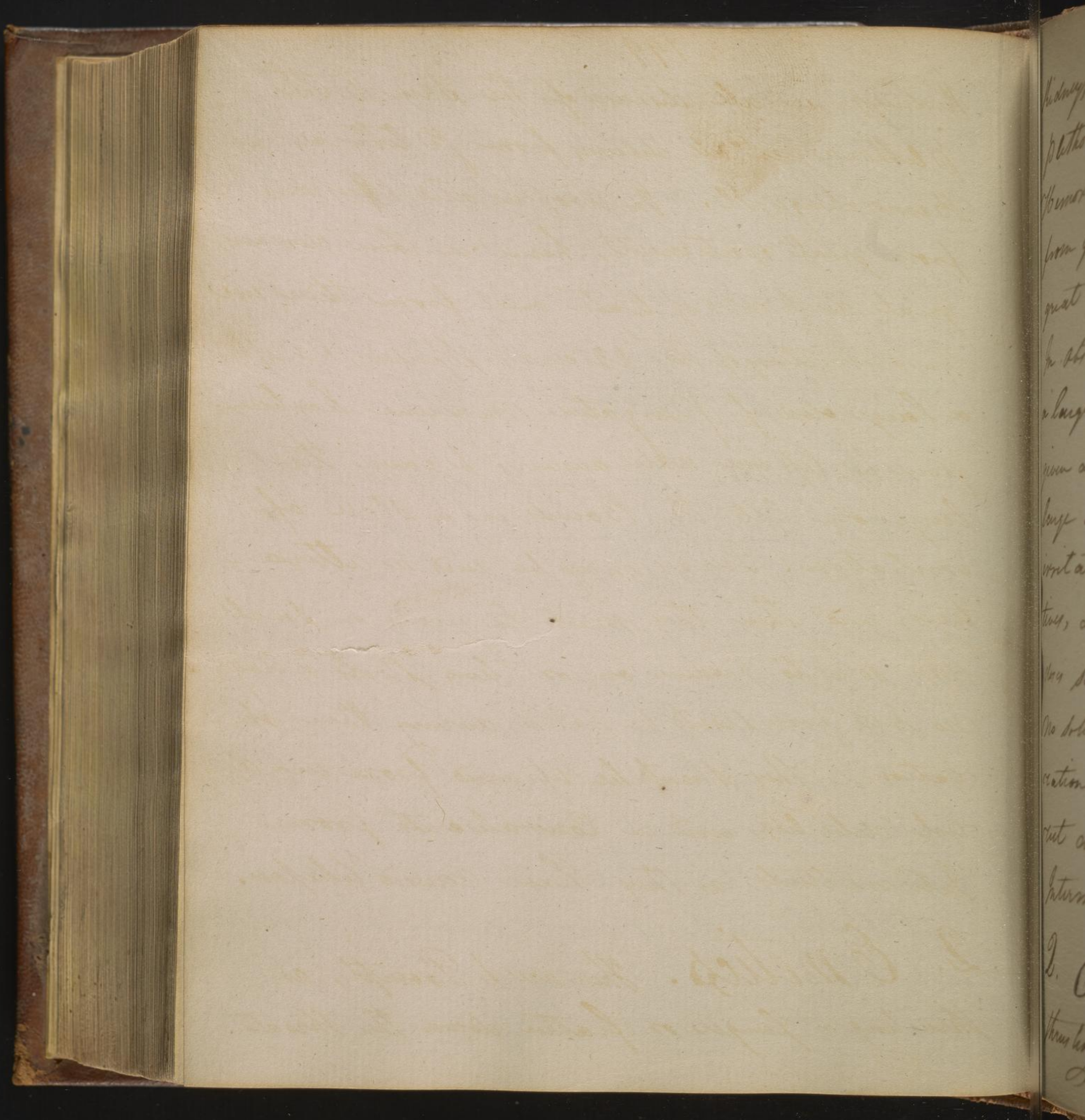
The Medicines that belong to the class of Sedatives abstract excitement, but they do it by stimulating particular parts.

I believe in the specific action of Stimuli, many act on the whole system through the medium of particular parts, as the Stomach, Bowels, & skin. They act on certain parts more



readily than others. The Stomach is preeminent in sympathy over every other part of the system. Some Medicines enter the Blood. The system is capable of receiving more than one action; yet each particular system can only receive the action of one stimulus at a time. The first class of Medicines is,

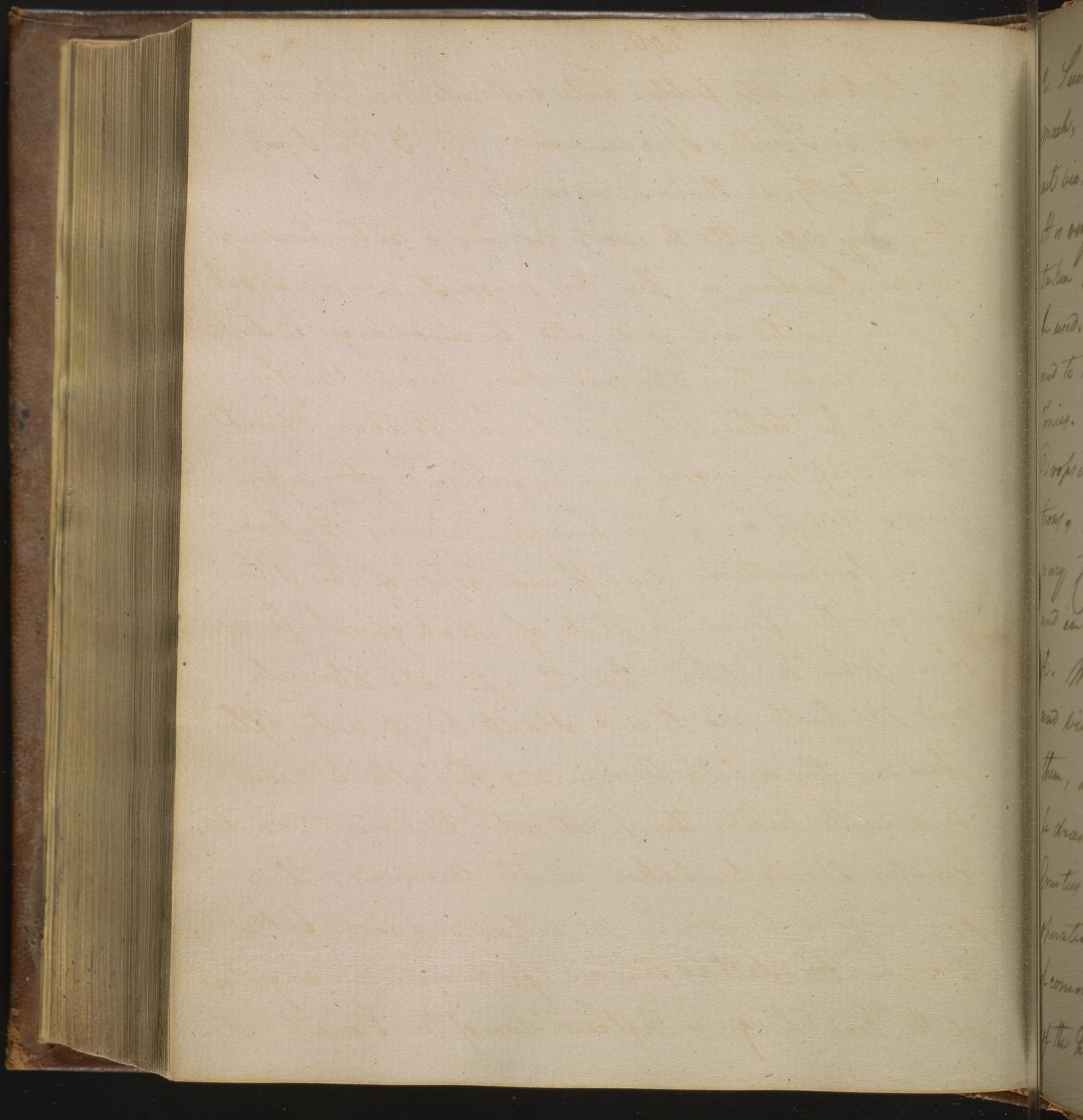
Cathartics. These may be exhibited by the mouth or Anus. Order 1. Cream of Tartar, Castor oil, &c. 2. Jalap, Rhubarb, Calomel, &c. 3. Gamboge, Aloes, &c. these last are called drastic. Purgers are indicated when the Stomach is overloaded with food, the Bowels with feces, &c. In all diseases of the Head, throat, &c. when the Bowels are incapable of performing their office from Mucus, &c. and when they are rendered irritable by Bile. Many diseases are brought on by Stomach, these are cured by Purgers. They are indicated in Morbid action of the Liver and



Kidneys, in all diseases of the Skin with
 Plethora, in all diseases from Plethora, as
 Hemorrhages, &c. In dropsies and effusions
 from great excitement, hence in these diseases,
 great discharges of Water occur from their use.

In obstruction of the Viscera, Spasms, &c. After
 a large dose of Purgative Medicine has been
 given a less one will answer, because the
 large one left the Bowels in a state of
 irritation. Purgers may be used as attra-
 tives, and then they must be given in small
 doses so as to produce one or two stools a day;
 no solid food should be taken during their ope-
 ration. They should be refrained from in di-
 rect debility, and in Convalescents from
 Intermitents, as they have caused Relapses.

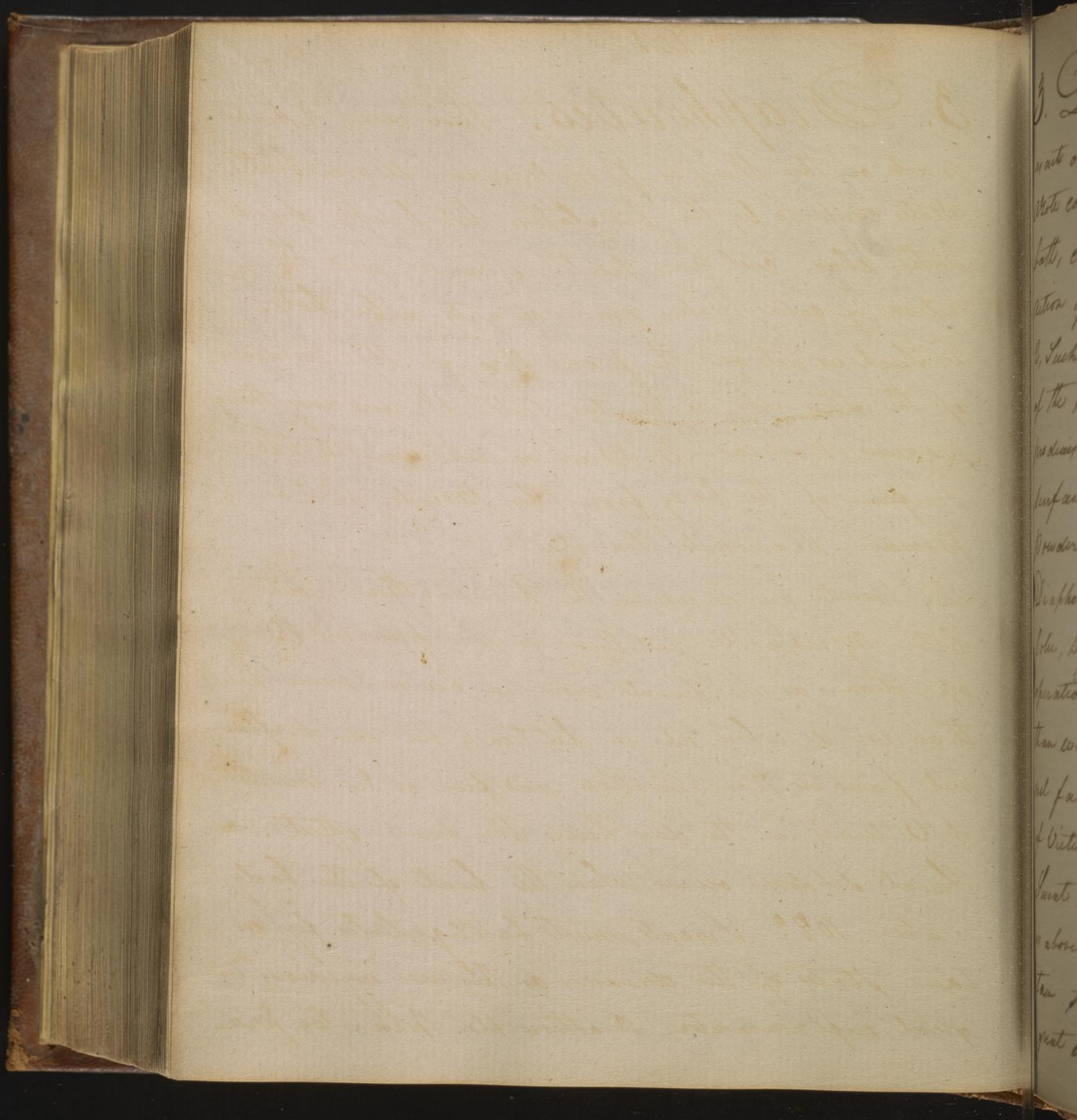
2. Emetics. There are 1, Prompt, as
 thrusting a finger or feather down the Throat.



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2. Such as act subtly, but certainly, on the stomach, as Squills, Spicaechariana, &c. 3. Such as act violently, as Tartar Emetic, &c.

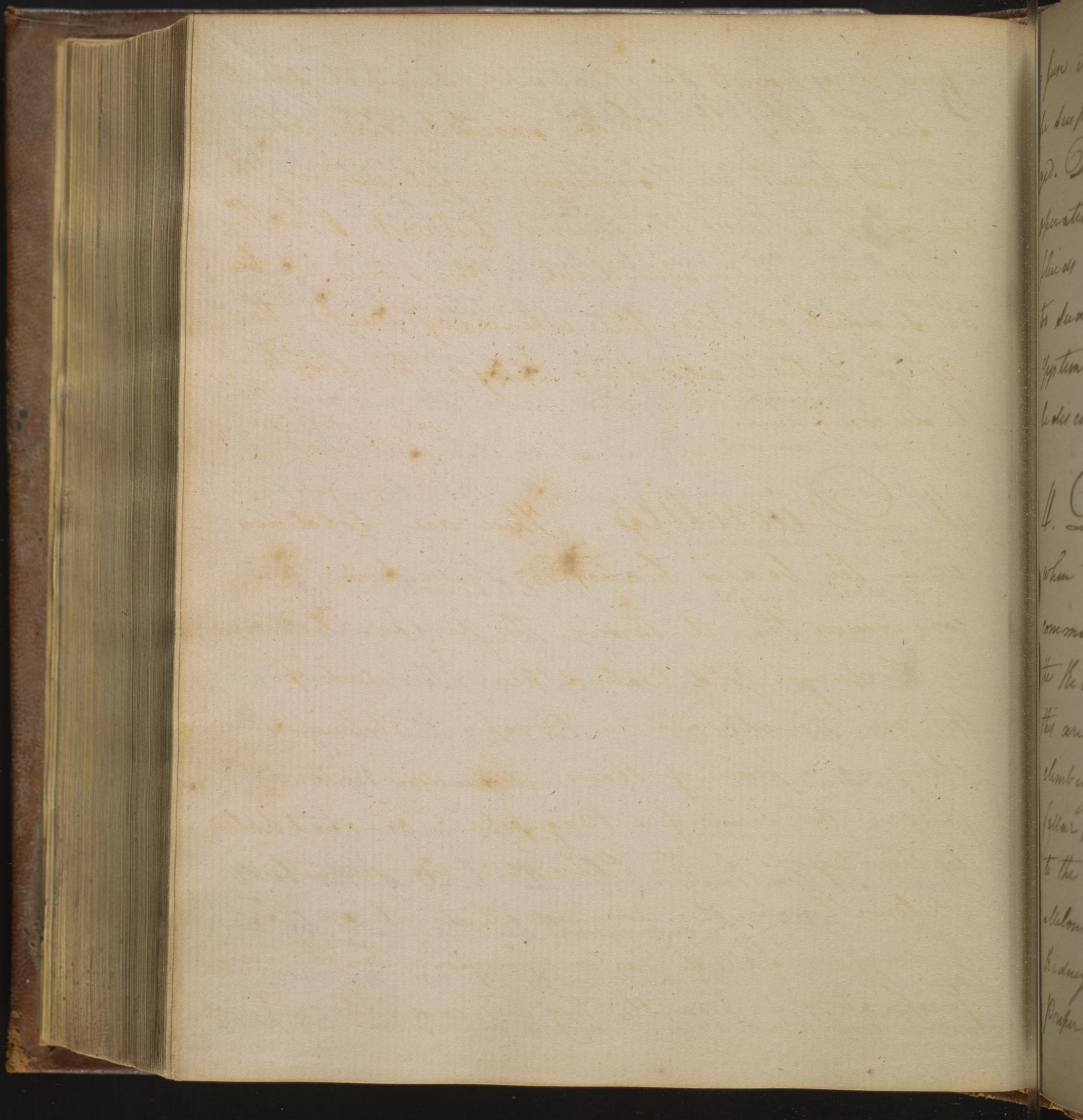
It is very difficult to excite vomiting after having taken Laudanum, here the prompt Emetics should be used. Emetics are indicated to discharge Bile, &c. and to render the stomach more susceptible of Tonics. In Tooth-ach, Ophthalmia, Buboes, recent Dropsies if unaccompanied by inflammatory affections, oppression of the Lungs, Tetanus, Pulmonary Consumption, dryness and torpor of the skin, and in the forming state of Malignant fevers, &c. When we wish them to operate speedily and violently, no liquid should be drunk after them, as this debilitates them, and they should never be drunk until the patient has once vomited. Emetics should be taken in the morning; their operation is prevented by a table spoon full of common salt. They are forbidden in congestions of the Head & Lungs, in Inflammation of the Stomach, &c.



3. *Diaphoretics*. There are, 1, Such as act on the skin, as Pediluvium, warm bath, Prose confined by the bed clothes, hot bricks, Sand bath, clay, cool air, water, exercise, and the action of cold water immediately after hot. 2, Such as act on the pores through the medium of the Stomach, as Emetics, Nutra, &c, and any thing produces Nausea. 3, Such as determine to the surface of the body from the Bowels, as Dover's Powder, Chamomile Tea, &c.

Diaphoretics are useful in the Rheumatism, Gout, Colic, Dysentery, &c. and lying in bed favours their operation, as we sweat more in bed in nine hours, than we do when up in fifteen; the use of flannel favours their operation, and five or six meals of Victuals in the day have the same effect.

Sweat seldom occurs when the heat of the body is above 108° . Sweats must be regulated by certain states of the disease, as they are injurious in great inflammatory Diathesis &c. When too pro-



= sure it exhausts the patient, hence it should be suspended. The cloths should be often changed. Diluents are sometimes useful during the operation of these Medicines, but not when the fluids are superabundant. They should not be too suddenly checked; but when they weaken the system without affording relief, they should be discontinued.

4. *Diuretics*. These are, Cold air when the body is heated, Dr. Sydenham recommends this, it throws the perspiration on the kidneys; Cold water; Fear, the effects of this are remarkable in Dropsy; Abstinence; climbing a pair of stairs; descending into a cellar; the sound of a Bag-pipe; Onions applied to the Region of the Pubis, &c. - also Diluents, as Mellons, Parsley, &c. And those that act on the kidneys, as Batt of Tartar, Hot glove, Turpentine, Preparations of Iron, &c. They are indicated in Drop-

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sical effusions from morbid excrement. Iron is used in Dropsies of weak action; it was prescribed in the Hospital for Ascites. These Medicines are prohibited in inflammation of the Kidneys.

5. *Sialagogues*. These are *Piperithra*, *Angelica*, *Sobane*, &c. These are useful in Tooth-ach from Cold. The only Medicine of this class to be depended on is *Mercury*. This is the most odious Medicine in Nature, yet it is not unnatural; a Spontaneous Salivation sometimes occurs in Malignant fevers, and often produces death if suppressed; a cough and spitting often conducts patients through the yellow fever; Spitting sometimes occurs in Mania, hence we imitate Nature by exciting a Salivation; in Consumption Nature sometimes brings this on, but at too

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Late a period, for a sore mouth in this disease is a precursor of death.

Its operation is favoured by blood-letting, by cold bath, hence it acts most quickly in moist weather, &c. Its effects are increased by combining it with Nitre, ten grains thus combined will produce greater effect than thirty, alone; also by Glysters of Mercurial ointment when vomiting occurs. When Calomel fails, the precipitate and Corrosive sublimate should be substituted, and these are assisted by rubbing the gums with mercury, Mercurial friction, and Mercurial socks.

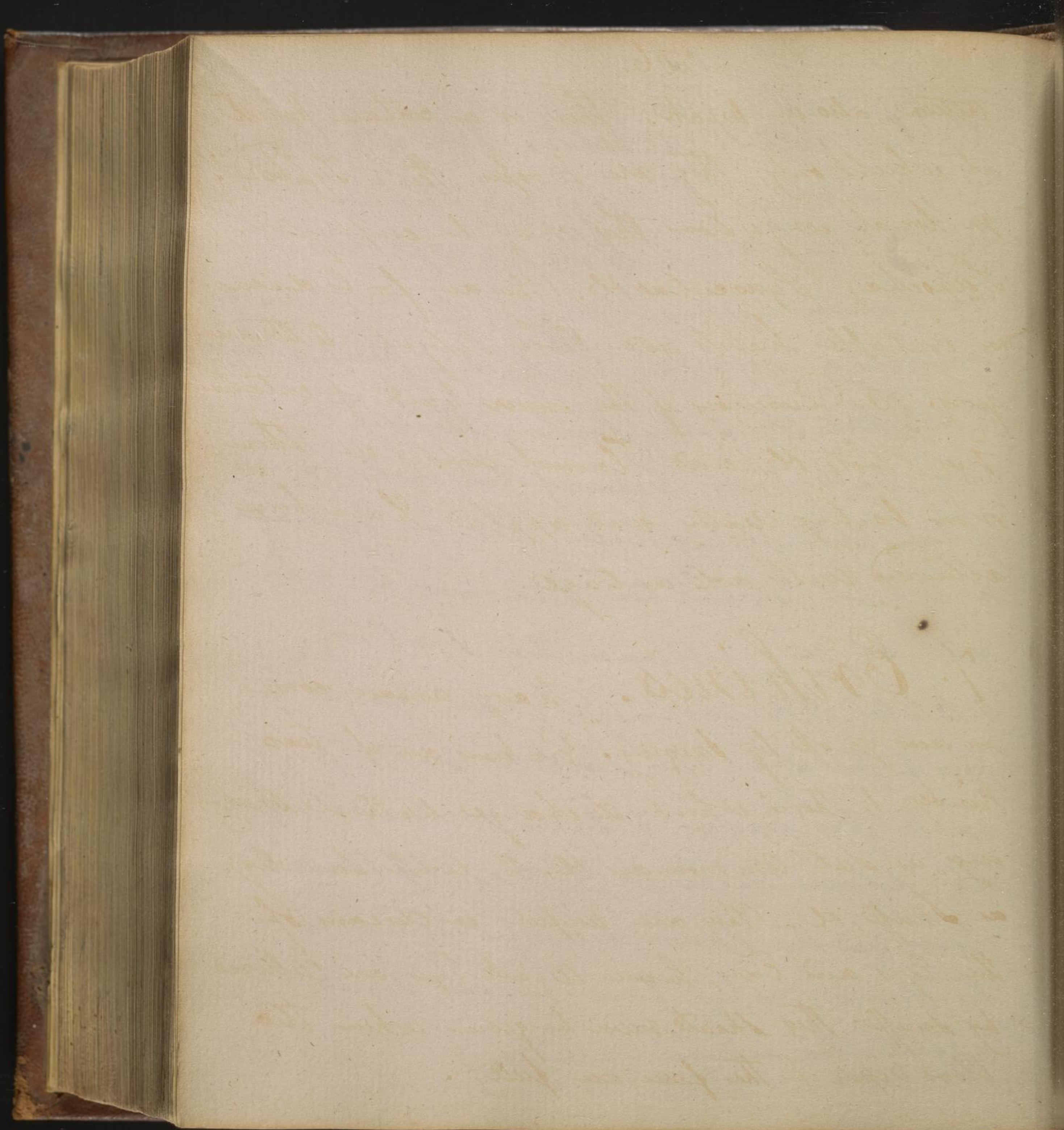
Salivation is restrained by blood-letting, Opium, Glysters, Blisters, Purgers, Sulphur, washing the mouth with Tea, Borax, &c.

Its operation is loathsome and painful, but violent diseases are to be cured by violent remedies.

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6. *Expectorants*. These act through the Medium of the Lungs and Stomach. They are 1, *Demulcents*, as Wheat seed, Apple & Bran Tea, Vapour, Liquorice, Mungar, &c. 2, *Emetics & nauseating Medicines*, as Seneka, *Spicaculana*, &c. 3, *Potatile Salts*, Smoke of Buswax, Mustard whey, Garlic, Onions, Vapour of Tea and Bran, and of Salt with boiling water: These are indicated in Asthma, Consumption, Pneumony &c. when attended with inflammatory symptoms.

4. *Blister*, these discharge Serum through the pores of the Skin: They should lie on the part until they produce a serous discharge, which they seldom do on the Head in less than 24 hours, and they seldom discharge Serum after the second dressing, from new ones should be applied; they are forbidden in great morbid



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action, also in weak; there is a certain point, at which only, they are proper, this is Typhoid. In local congestions they may be employed in Synocha, Synoculat &c. They are forbidden in irritable habits, and those subject to Strangury. 5. Ductions of the inner bark of certain trees, roots, &c, and Tannin dipped in them, or in boiling water and applied have been attended with advantage.

7. *Erhines*. Many diseases come on and go off by sneezing. Erhines are of two kinds, 1, those which discharge without sneezing, as Sal Ammoniac, &c, 2, with sneezing, as Snuff, &c. They are useful in diseases of the Eyes and Ears, hence weak Eyes are relieved by snuff: They should never be given when the blood vessels of the face are full.

My dear Mother
I have just received
your letter of the 10th inst.
and am glad to hear from
you.

Yours affectionately
John

I am well and hope
this finds you the same.
I have been thinking
much of late of the
future and of the
things that are to
come. I feel that I
must be prepared for
whatever may befall me.
I am, my dear Mother,
your affectionate son,
John

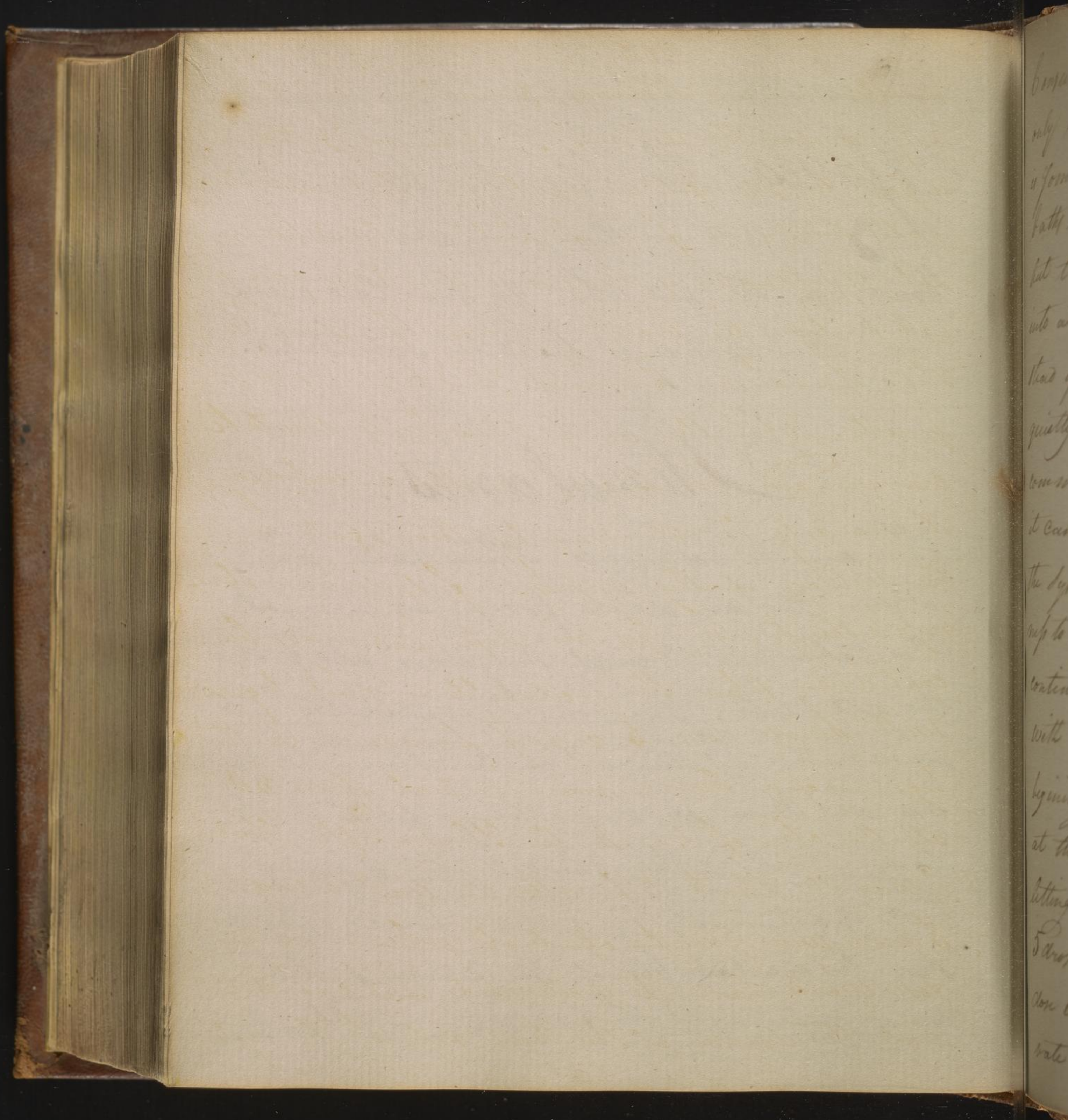
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The last of the ²⁰⁷depleting Remedies is
Issues. These open the fluids, and
are indicated in their superabundance, in
congestion, &c. and when they are laid aside
some other discharge should be substituted.

Stimulants.

These are divided into Stimulants and
Tonics. They are derived from the Animal,
Vegetable, and Mineral Kingdoms, also from
Air and Water. They convert excitability into
excitement. Bitters act on the Stomach; Opi-
um and Wine on every moving fibre of the
body; Bark on the Blood-Vessels; Sugar of
Lead, Digitalis, &c. by excessive force; They de-
stroy the excitability of the Nervous System,
this is proper in but few cases. In Dropsy,



Consumption and Tetanus, Opium and Digitalis only suspend the disease. Sulfurum Saturni is sometimes useful in Epilepsy. Hot and cold Baths have cured fevers of great morbid action, but this practice is dangerous, it is like getting into a room by breaking down the door instead of raising the latch and walking in quietly. When the use of Stimulents should be commenced has been a matter of controversy, it can only be determined by their effects on the system, if they impart fulness and slowness to the pulse, they are safe and may be continued. When the excitability is great, begin with small doses, 5 drops of Laudanum in the beginning of a Fever is more effectual than 50 at the close of it. In the Pleurisy, after blood-letting &c, should it be attended with a cough, 5 drops will often be effectual, when a large dose would have the excitement and aggravate the disease, at this time depends the system

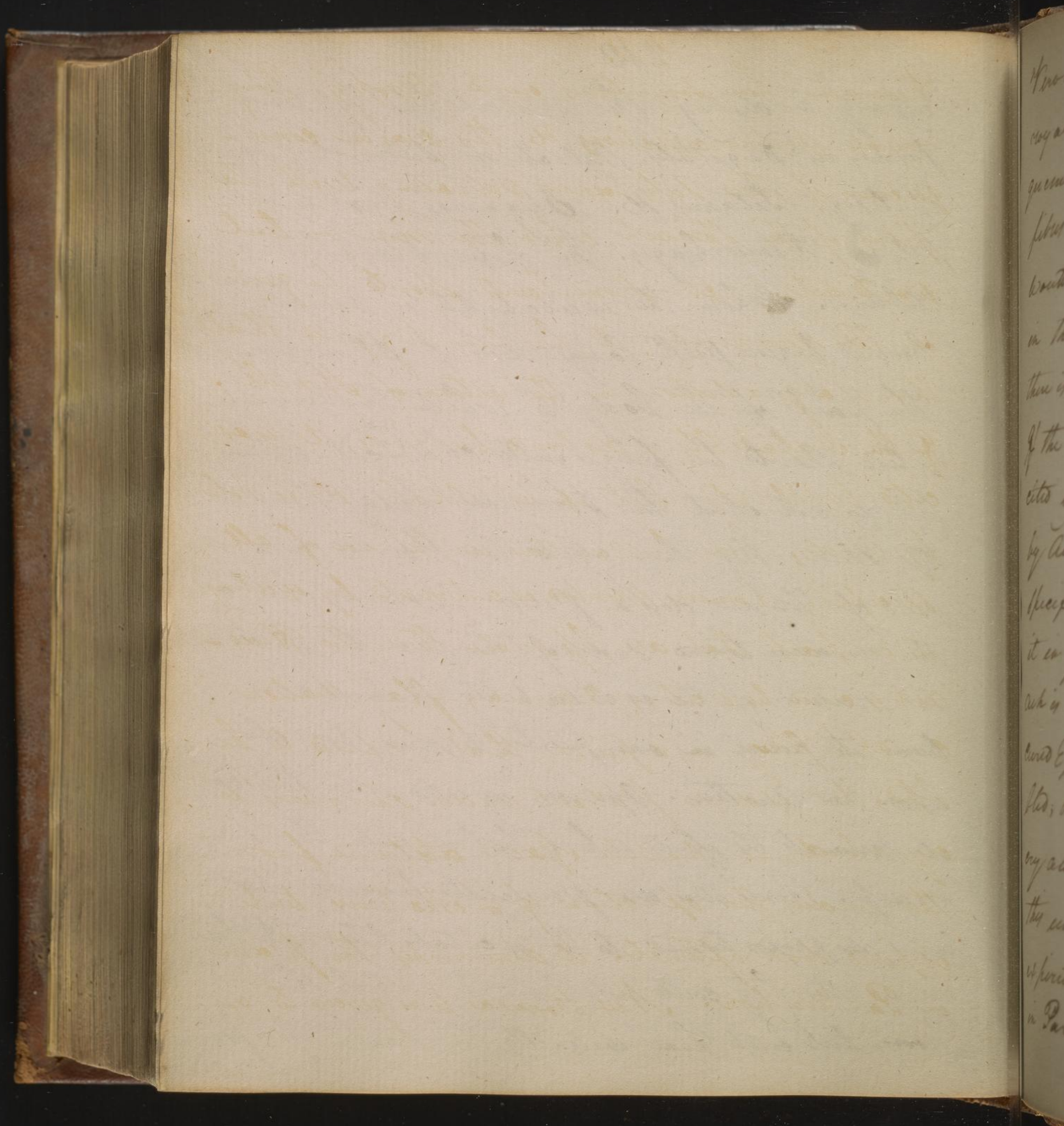
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from adventitious Stimuli, as light, &c. A large dose of Stimulus is useful in the close of all diseases, and in the commencement of some. Do not combine too many together, by this means you will be able to contend longer with a disease; Some act only in a state of mixture, Opium & Alkali combined cured Tetanus, after both failed separately. They should be used in Rotation, when one fails try another, and when you have gone through all, begin again with the first. Opium will frequently act when Sassafras will not, and vice versa. No two Remedies of the same class produce the same effect on the body. Tonic Medicines should be occasionally omitted in chronic diseases, as 20 grains of Opium a day when long continued will produce no effect. In using them after depleting Remedies, it is ne-

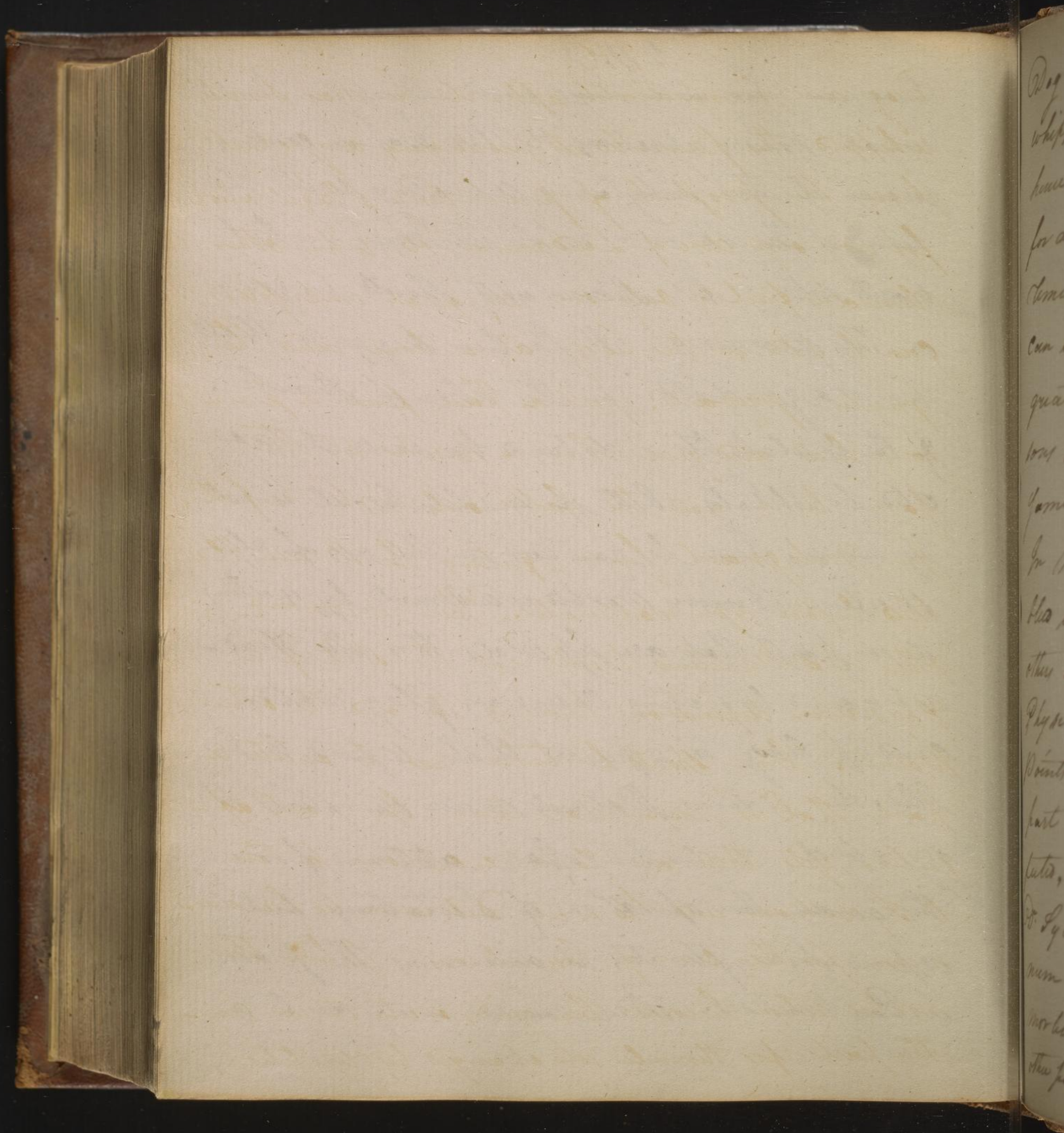
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= cessary to destroy the irritability by their force, as Digitalis, Nitrate of Silver, &c. in Epilepsy, Tetanus, &c. Sugar of Lead is useful in Hemorrhages. In Colic, blood letting relaxes. When the excitability is much lowered begin with large doses of Stimulus.

The part of the body to which they are applied should be frequently changed, when they do not effect the Stomach apply them to the skin, they then effect the Bowels, as a quid of Tobacco does a person by chewing it on the unanestomized side of the mouth; such is the nature of the excitability that when it loses its power in one part, it may be acted upon in another. Opium injected into the Bowels prevents its effects when taken into the stomach. Rums are powerful because they are disproportioned to the excitability: A Lady in this city could not hear the report of a Gun, but could hear distinctly the scratch of a pin.

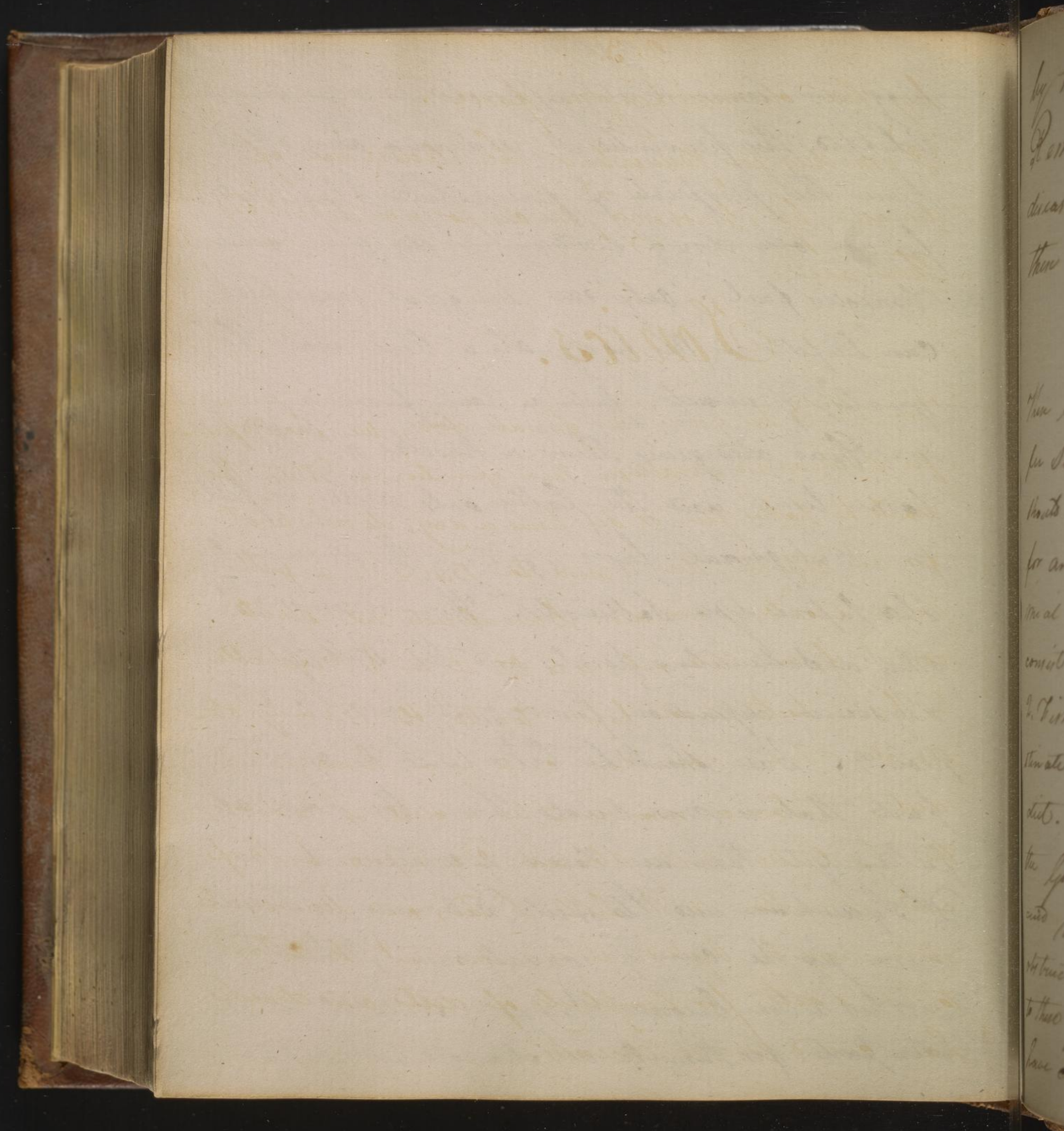


Vermin has sometimes cured Dropsy, Ptery-
 royal, Nervous affections, &c, this was in conse-
 quence of these substances vibrating with the
 fibres of the stomach, while the more violent
 would not. All stimulants should be given
 in the morning. It has been suggested that
 there is a gradation in the action of Stimuli.
 If the excitability is destroyed by Acids, it is ex-
 cited by Alkalis; but if by Alkalis, it is not
 by Acids, hence be cautious in the use of all
 specifics. Remove Morbid excitement by exciting
 it in parts that are less vital, thus the Head-
 ach is cured by exciting Diarrhoea; Flagellation
 cured Epilepsy in a person that refused to be
 bled; &c. Advise Patients under operations to
 cry aloud; a resolute officer abstained from
 this under the operation of Lithotomy, but
 expired soon after it; it diminishes the pain
 in Parturition. But Cornica was given to a



Doq and immediately after it he was severely whipped, this prevented its producing any effect, hence the propriety of prescribing flagellation for an over dose of Laudanum, &c, when other remedies fail: Only one unequal impression can be felt in the body at a time and the greatest prevails, pull a hair from a persons head and give them a knock at the same time and the latter only will be felt.

In Malignant fevers affecting the Brain, &c, bleed before you salivate. There is among others a salivating point, and the skill of a Physician depends on knowing this and the other points. Care should be taken not to excite a part that is more vital than the part affected, yet there are some exceptions to this, Dr. Sydenham used to excite Delirium by Laudanum for the cure of convulsions. When the morbid action becomes languid, excite it in another part, for stimuli are changed by repetition,

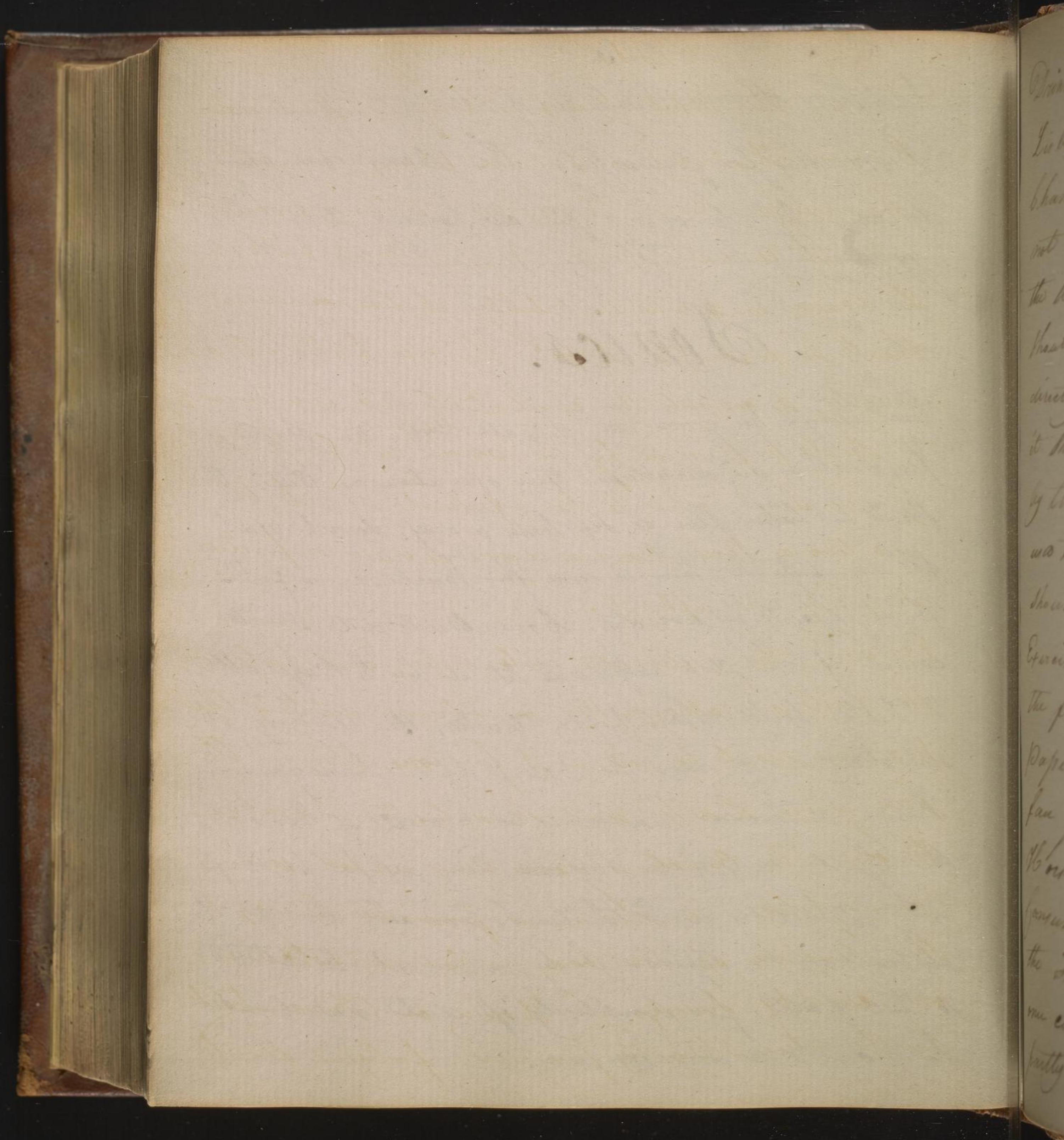


by their diminishing in force.

Remedies for preventing the recurrence of disease by removing predisposing debility, there are

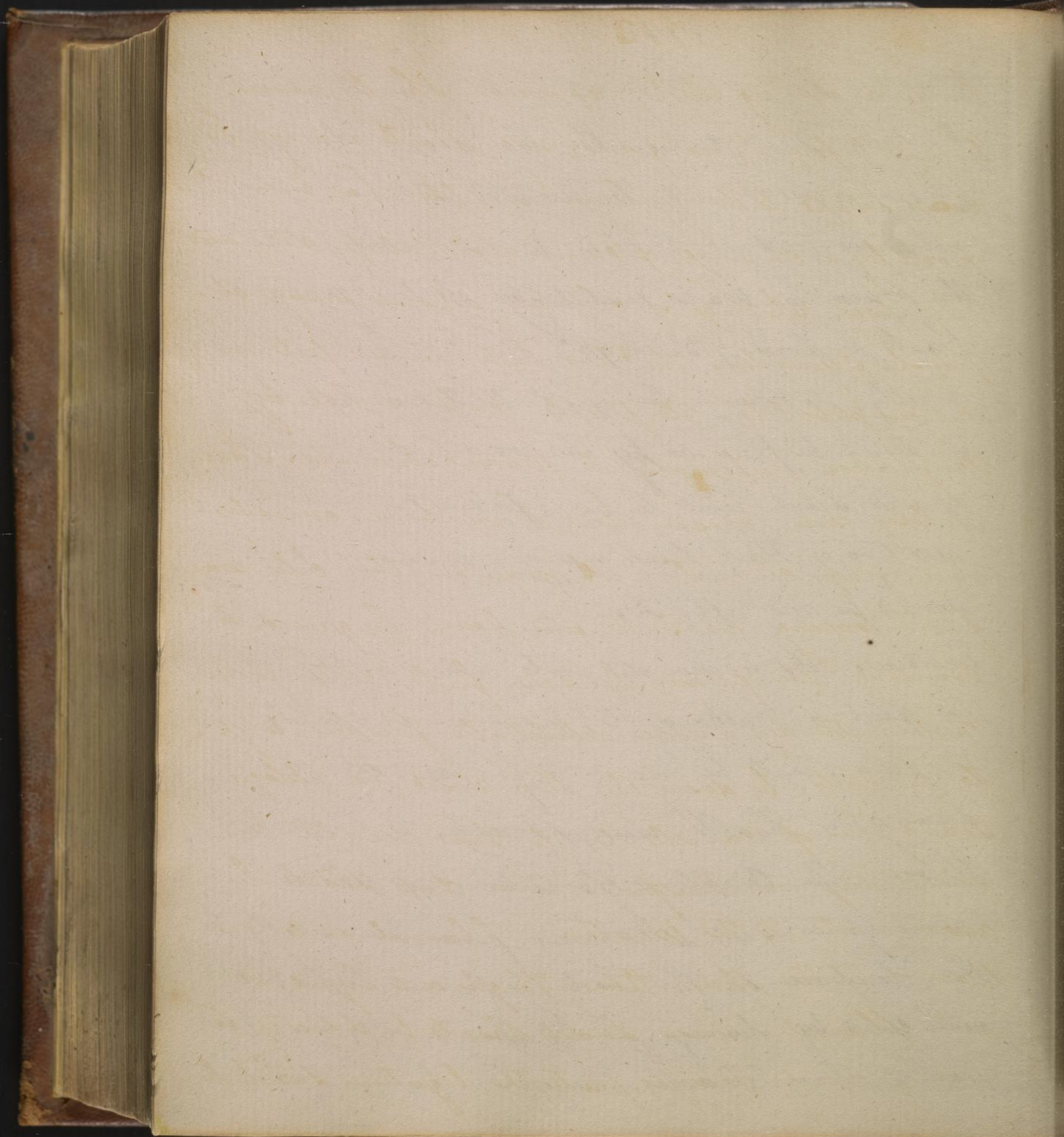
Tonics.

These should be given in small doses, we should prefer such as are durable in their operation, as Diet, this should be taken five or six times a day; do not wait for an appetite, there is none for Bark, &c. a full meal should be avoided: Convalescents diet should consist of one dish only, and let it be 1. Vegetable, 2. Fish, boiled meat before roasted, &c. Many obstinate diseases have been cured by a homogeneous diet. Asthma was cured by a diet of faxroots; the Gout by Milk & bread; Dyspepsia by Beef and Mutton with little bread; and Universal obstruction by Oysters; it is important to attend to these facts, for simplicity of diet and drinks have cured many diseases.



Drinks. The white Wine, Cherry & Madeira, Lisbon, Seneff &c. The low Wine, Claret, Champagne &c. are Tonics, but to these I shall not add Aromatic Spirit. Warm & cold bath, the warm in water excitability, its temperature should be from 93° to 96° . The cold bath acts indirectly, it converts the excitability into excitement, it should be preceded by the warm and tempered by the Sun, and to be repeated should be used two or three times a day, exercise or friction should be used after it.

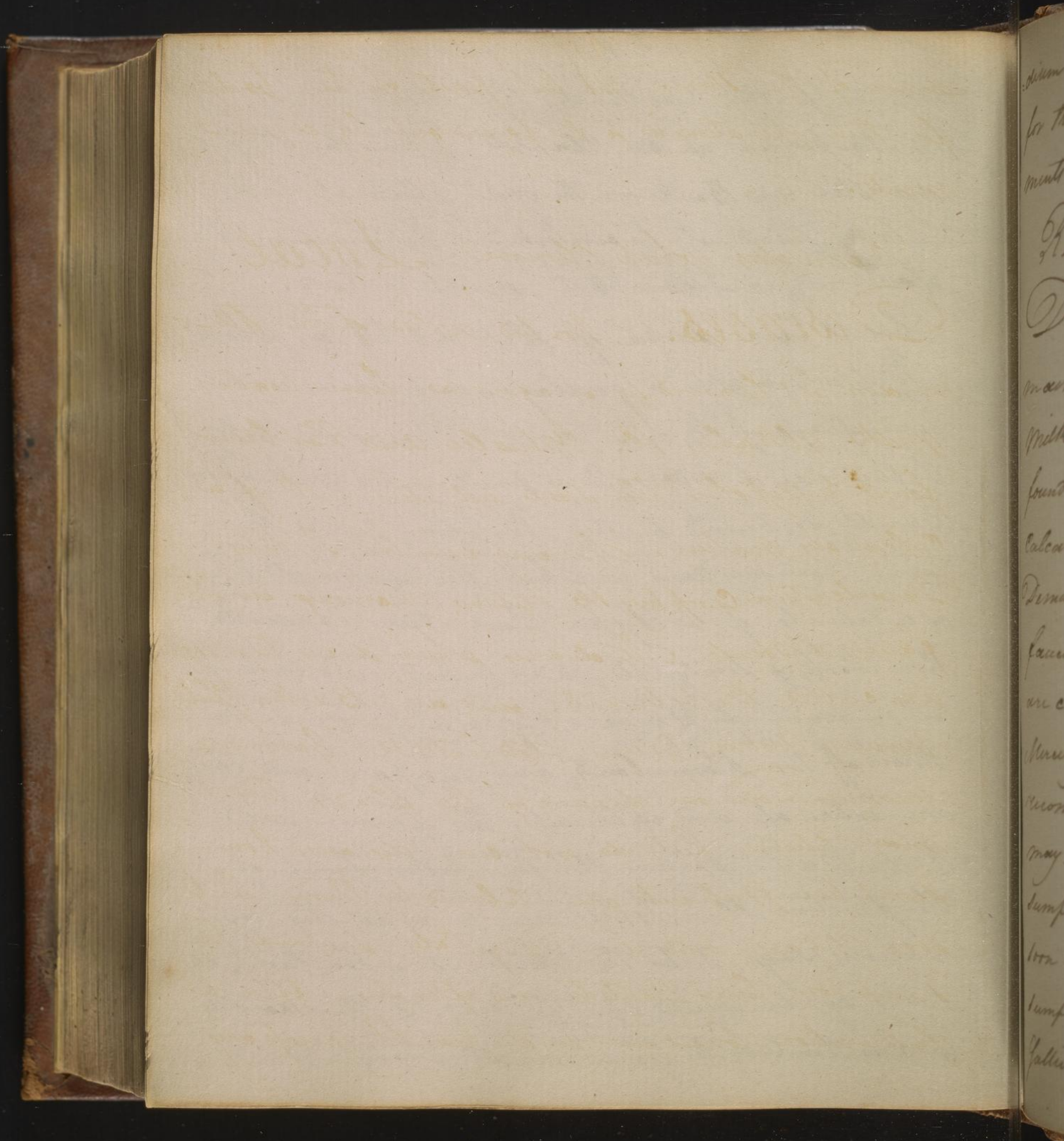
Exercise, this is divided into active and passive, the first is walking, &c. In extreme debility the passive should be used, as 1, frictions, this in the face gives health and Beauty, 2, Chamber - Horse, the Cradle is sometimes useful in Consumption, it determines from the Lungs to the Surface of the body, a Consumption was once cured by swinging. Riding on Horseback partly active & partly passive; fatigue should



be guarded against; exercise should never be used before Breakfast, and should always be accommodated to the system. Debility has been removed by a change of occupation, dress, diet and situation; change of climate affords many objects of stimulus; the two last are useful in nervous debility. Old people prolong life by migration, especially to warm climates. Stone, Epilepsy and Consumption have been cured by change of climate. A man in this city was fast losing his Teeth and Hair, by going to London. The former became fast, & the latter thick. always advise debilitated people to go to bed early, by doing this they avoid the polluted air of Canals, &c. to them night air and Venery are hurtful. Their dress should be accommodated to the weather; Flannel or Cotton worn next the skin; their Thighs and legs clad with flannel, hence Ladies should be advised to wear flannel drawers; no tight ligatures should be

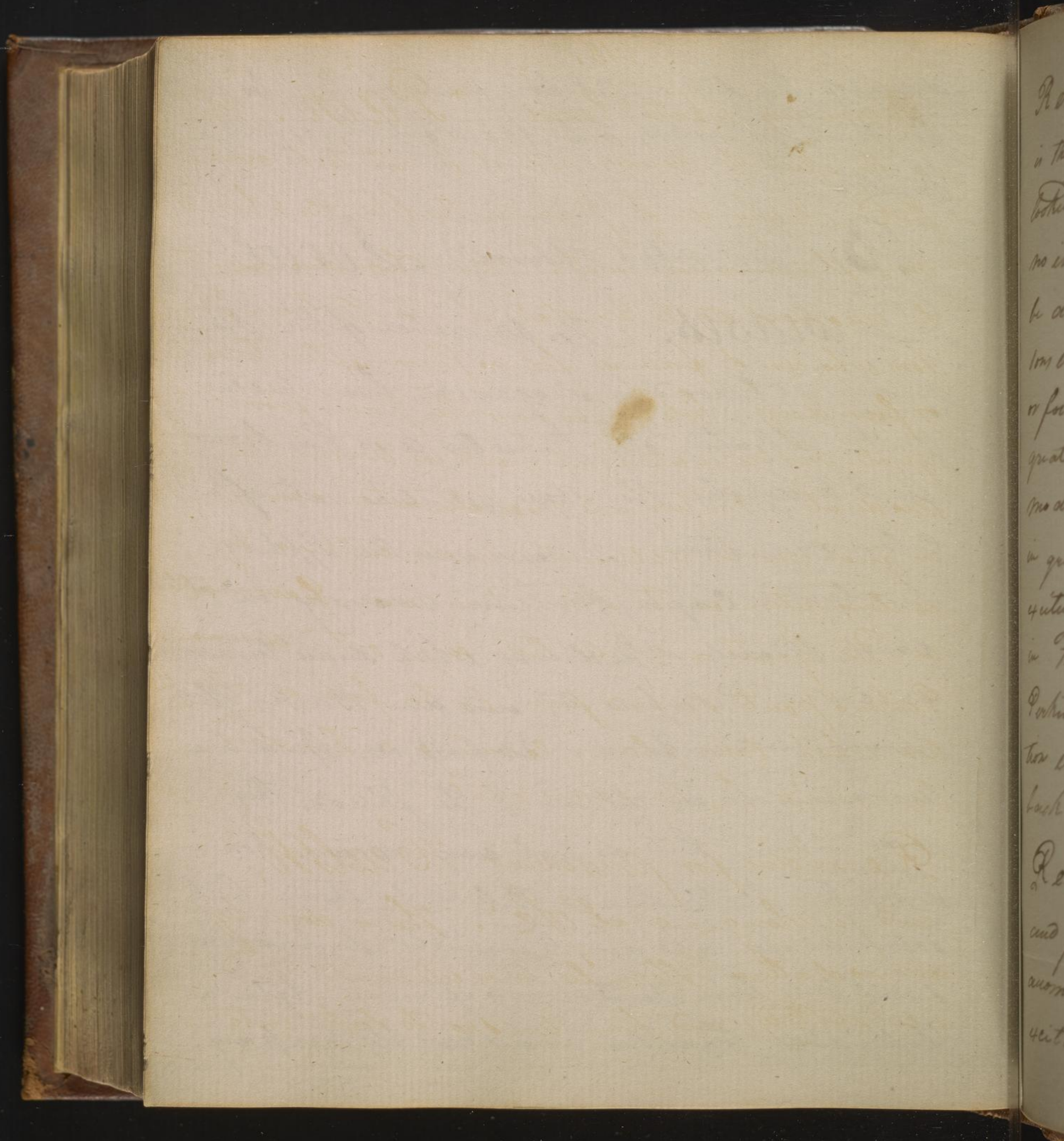
and; as feathers bear heat, they should lie on
mattresses and under Blankets; when the skin is
dry Stim and Bark are the most effectual Tonics.
Mercury should not be overlooked. Intoxication, to
those not accustomed to it might be tried.

Thus I have spoken of that debility in which
a Patient is able to go about, but there is a
lower stage of it, as in Syncope, Dyspepsia, Dropsy, &c.
A few drops of cold water or smelling the wick of a
candle, or burnt feathers has often caused syn-
cope. There are cases in which the excitement and
excitability of the system have been exhausted,
here boiling water &c. may be used; and cases of
total want of excitability, as in Gangrene, to
throw off the Stimulants are necessary, and these
are internal and external, the former are
Wine, Bark, opium, &c. the latter Spirits of
Turpentine, &c. Tonics may be exhibited in
various ways, 1. by the Mouth, this is the best, 2.
they may be injected up the Arteries, 3. The Nerves
in another way, 4. Garlic, &c. cut through the me-



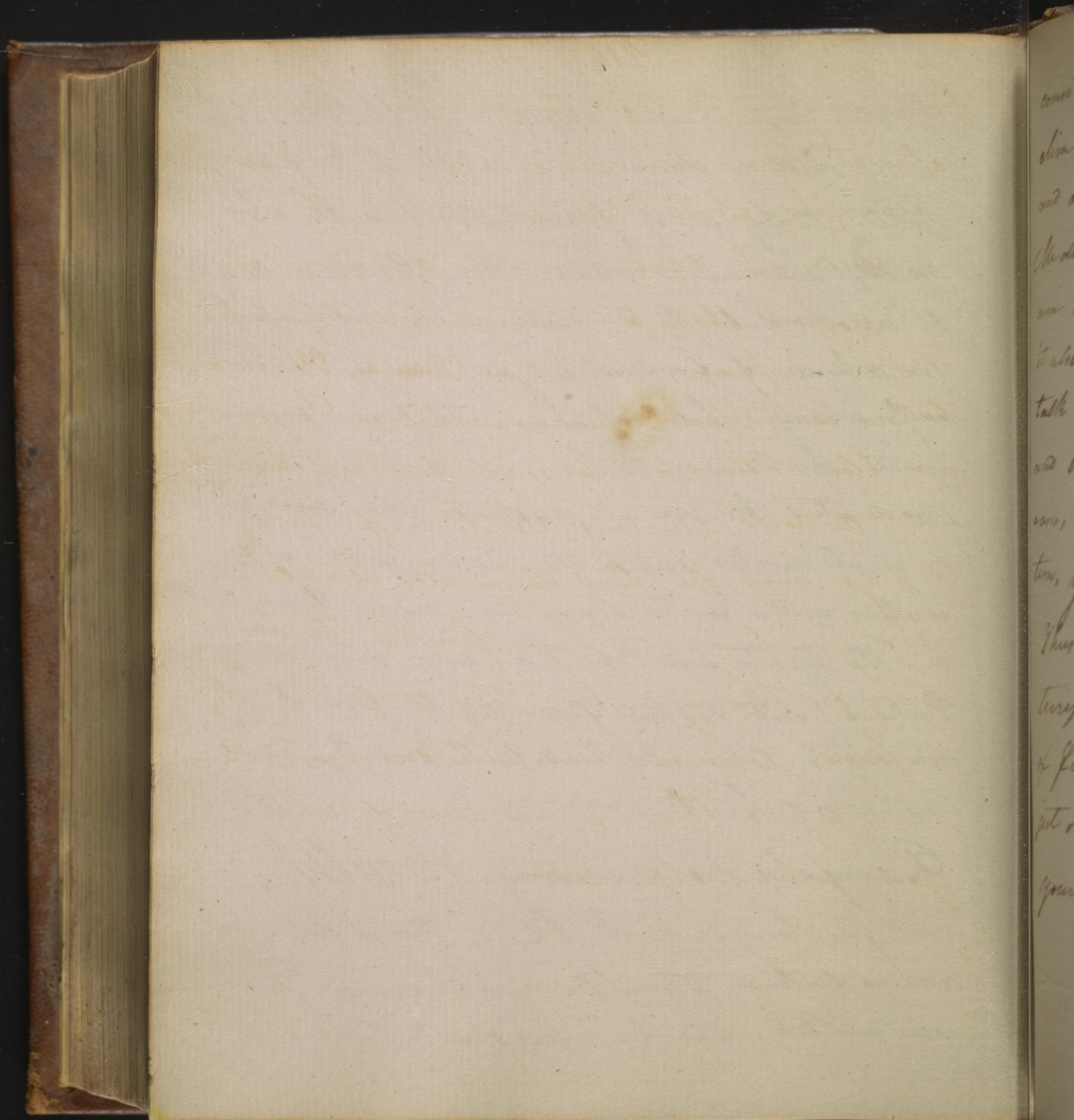
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=dium of the skin. The best part of the body
for their operation is to be found out by experi-
ments.

Remedies which remove Local
Diseases. Morbid action of the Sto-
mach is removed by Magnesia, lime-water,
milk, alkalis, &c. Nitric acid has been
found to dissolve the stone, yet it is not of a
Calcareous nature. Mercury cures the Syphilis.
Demulcents as Compfrey &c, relieve astringency in the
Lungs, & Bowels. Medicines which disperse tumors
are called Disobtruments, and are Bark, Gum,
Mercury, Arsenic, Exorcism, Cold bath, &c. Gases are
recommended in diseases of the fluids, they
may relieve, but do not cure diseases; Con-
sumptive Patients are relieved by them, but
soon relapse and die. Digitalis suspends Con-
sumption, Tonics should be used after it. After a
Gallivation Tonics are indispensably necessary.



Remedies which Remove PAIN. This is the effect of disease, yet it is not to be overlooked. Many die of pain in the folio, &c, where no inflammation exists. These Remedies must be accommodated to the state of the system. Persons who die of famine feel no pain after three or four days. Cold & heat ease the pain from great morbid excitement, and in warm, in moderate. Friction and moderate action ease pain in great morbid excitement, also dry cupping, by exciting action on the skin, this is more favourable in the Gout and Piles than any other disease. Perkins' points suspend pain by the force of attention which takes place, counting a hundred backwards has the same effect.

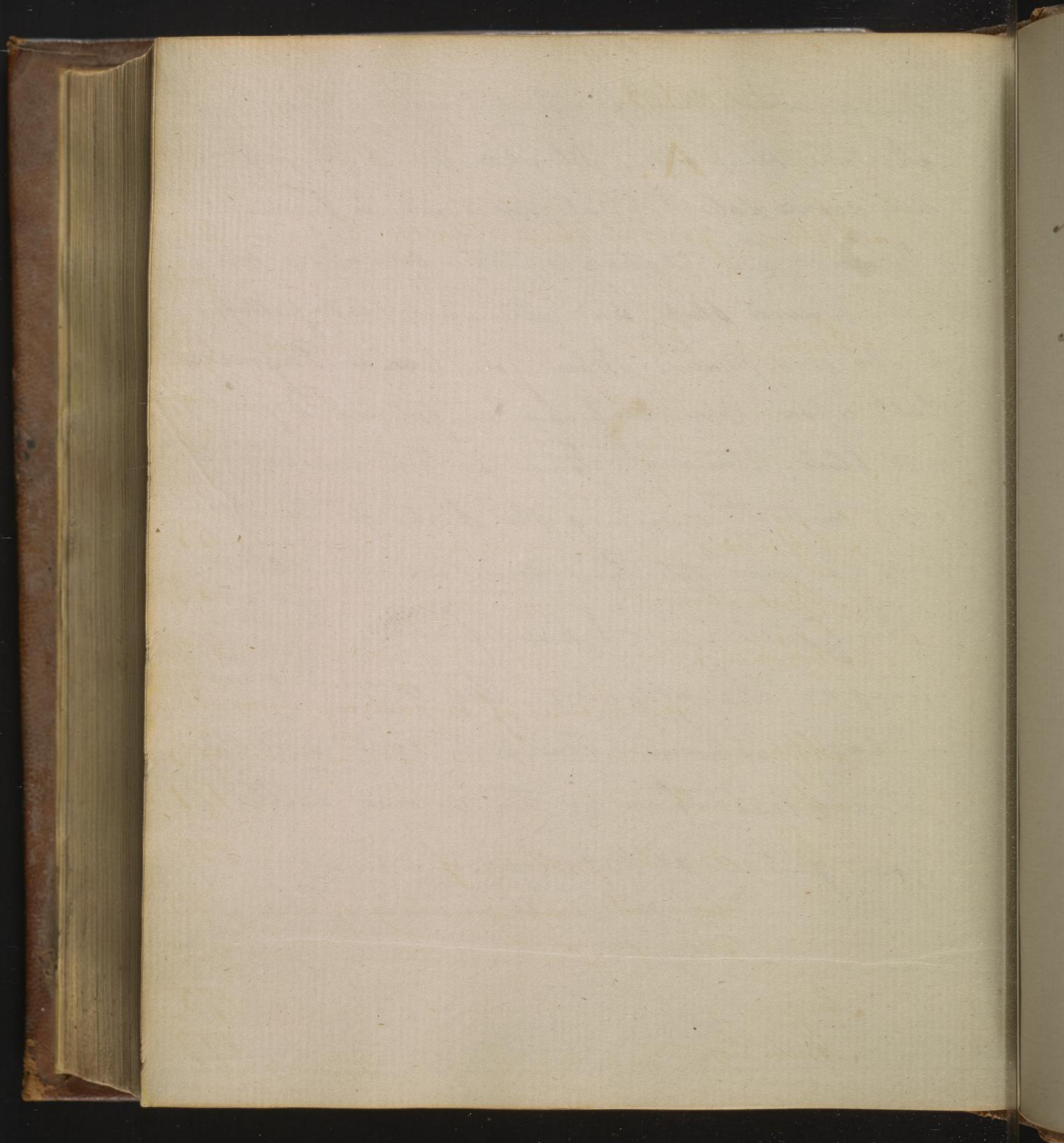
Remedies for preserving Health, and prolonging Life. This is done by accommodating Stimuli to excitement and excitability, and here we should take into



consideration, the Age, Temperament, Season, climate, occupation, Situation, &c. of the person, and accommodate the Diet and drink to them.

Medicines are relative in their operation, Opium induces sleep, and afterwards wastefulness, it also eases pain; When you hear a Physician talk about Opium being useful in Dysentery, and blood-letting and Tonics in their respective diseases, without describing the State of the system, you may set him down as a Quack.

Thus Gentlemen I have finished the Lectures on Therapeutics, they consist chiefly of Facts, examine them with care, and reject or extend them as they accord with your future observations.



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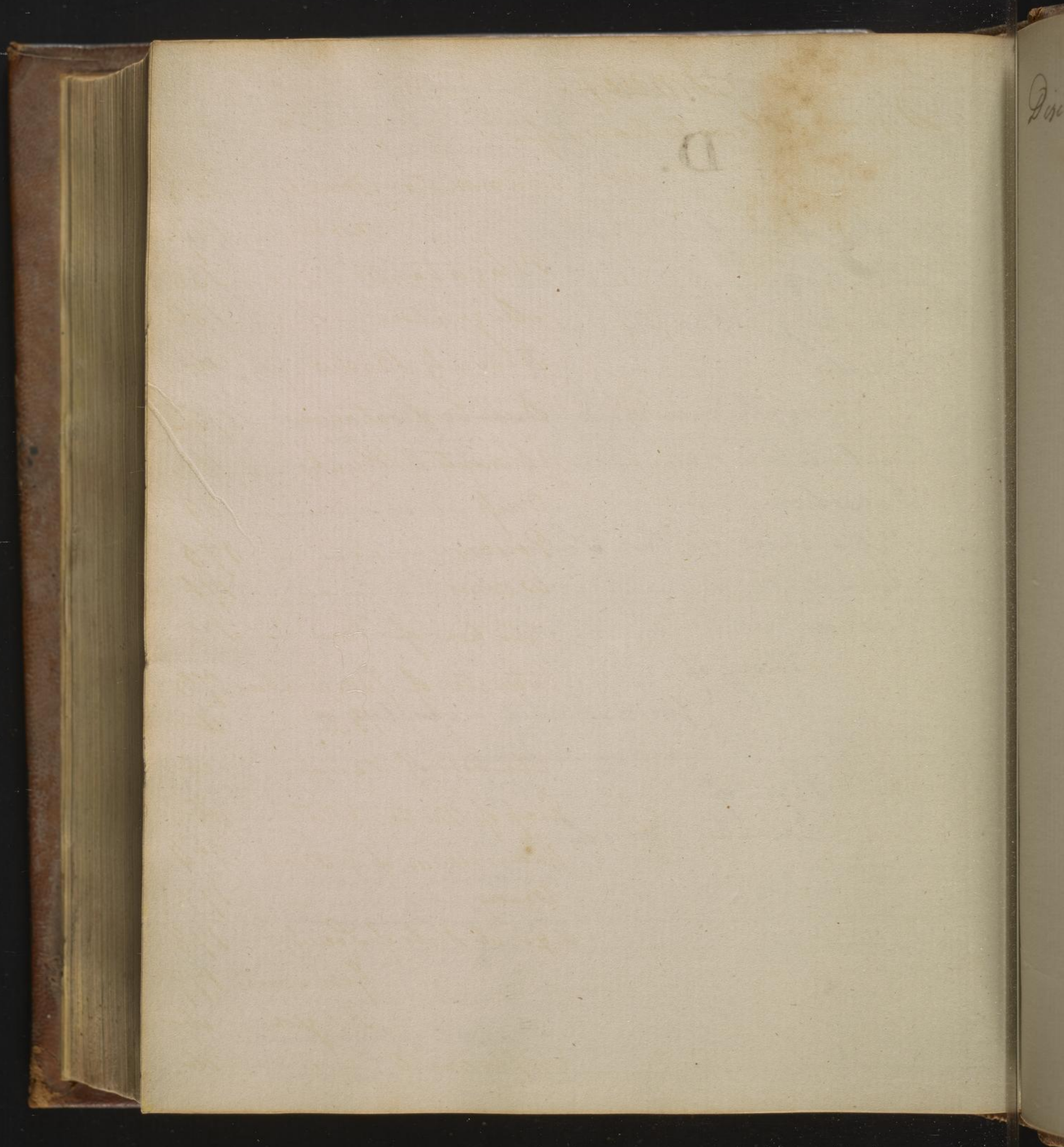
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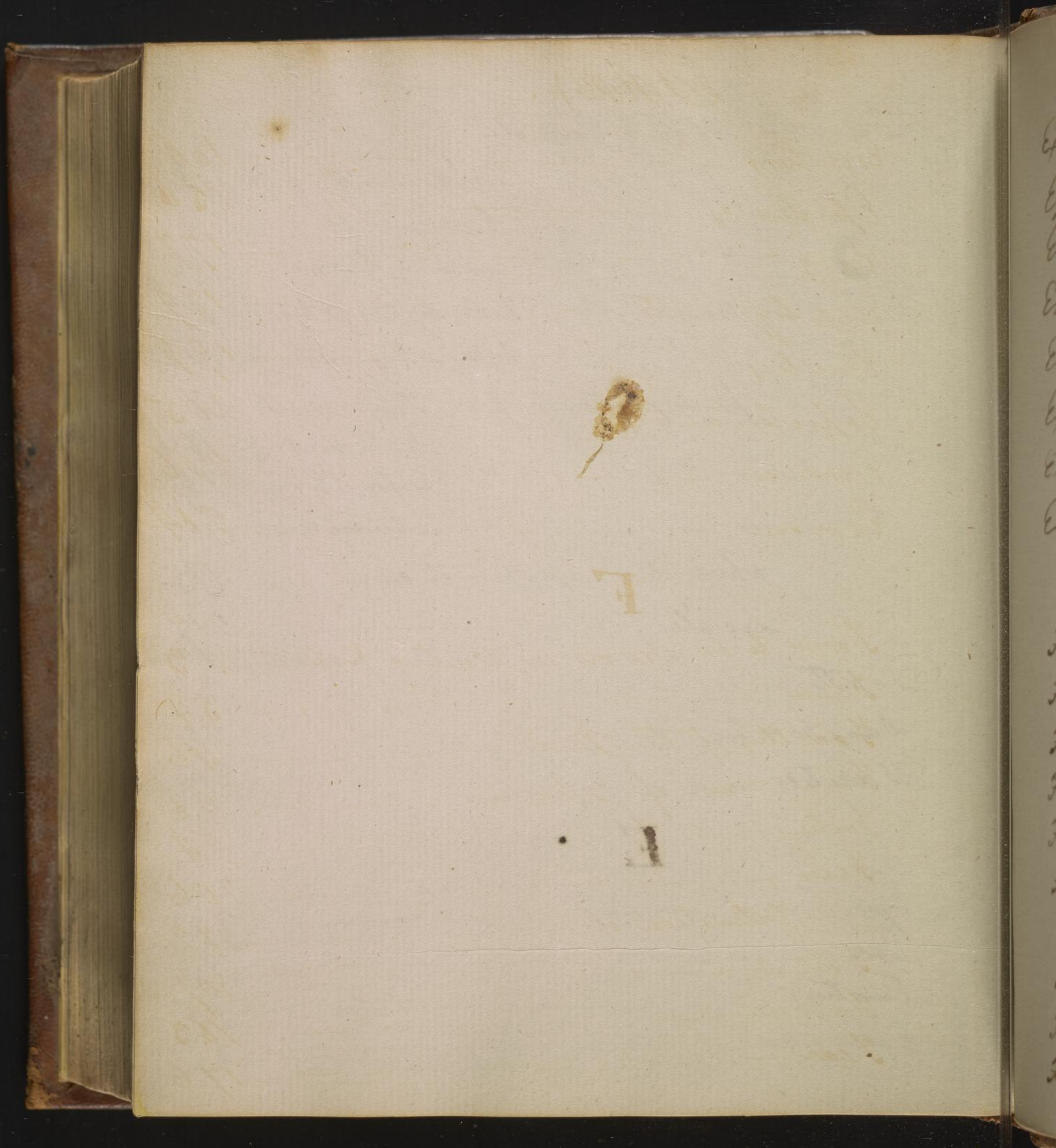
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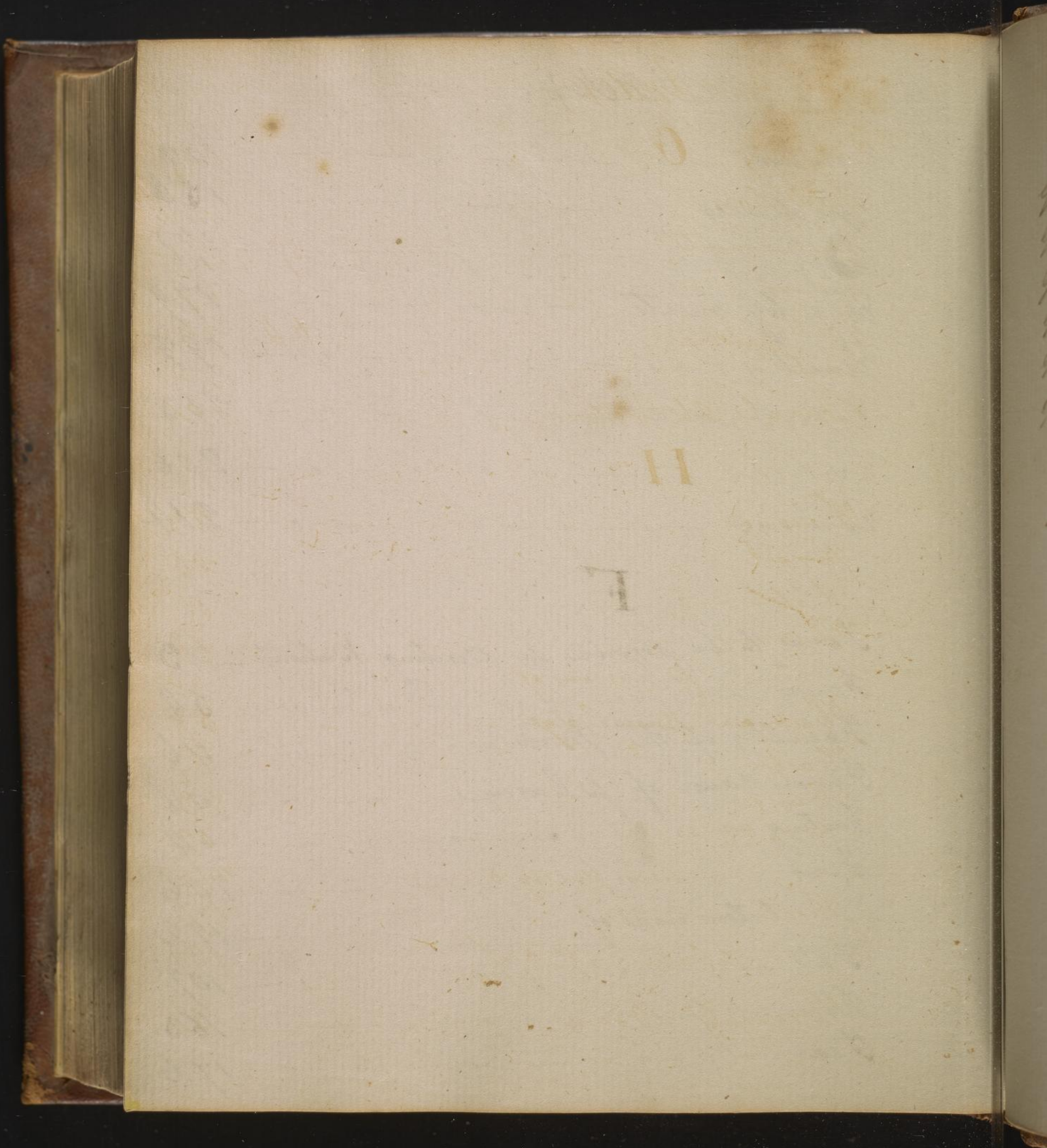


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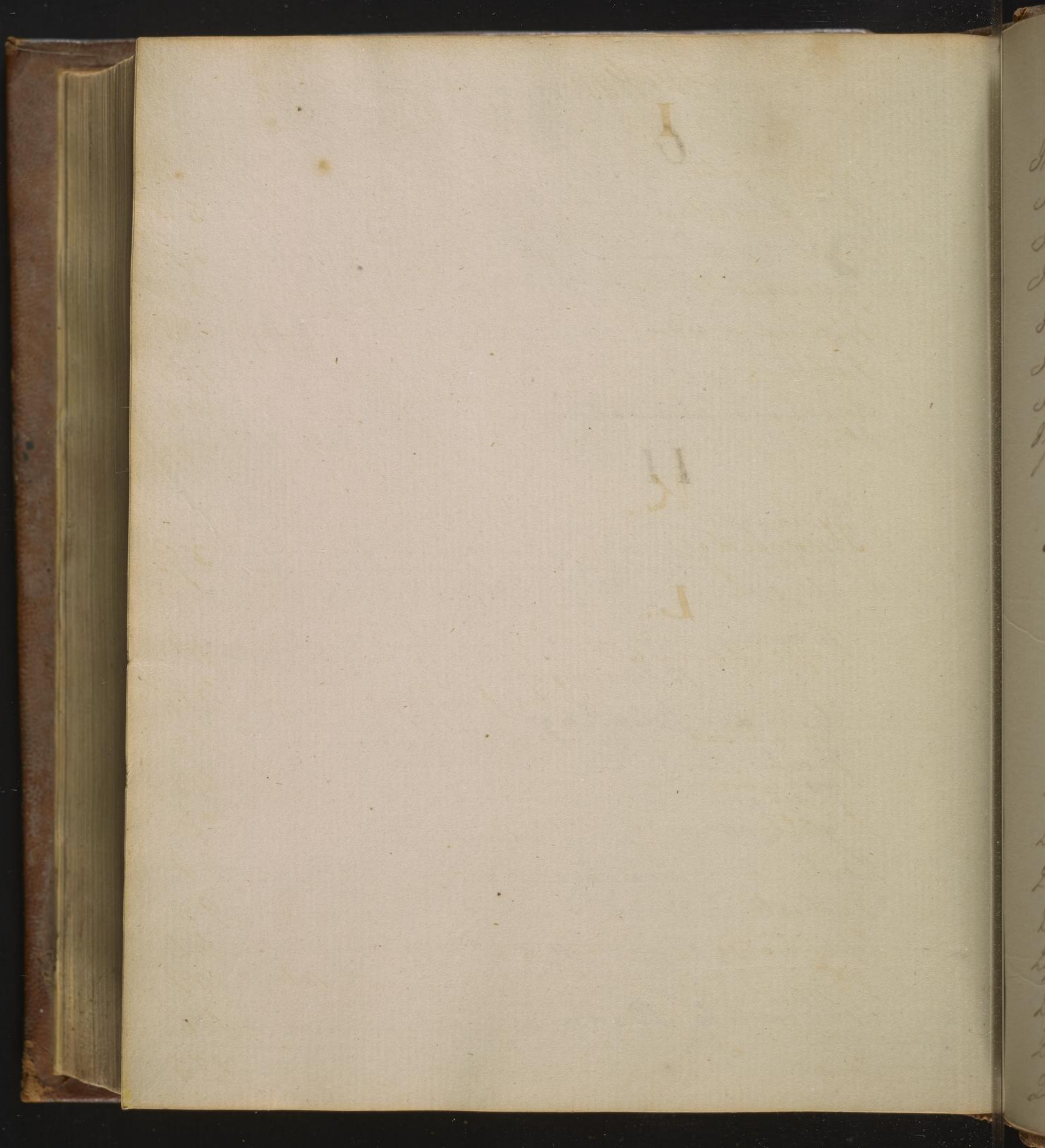
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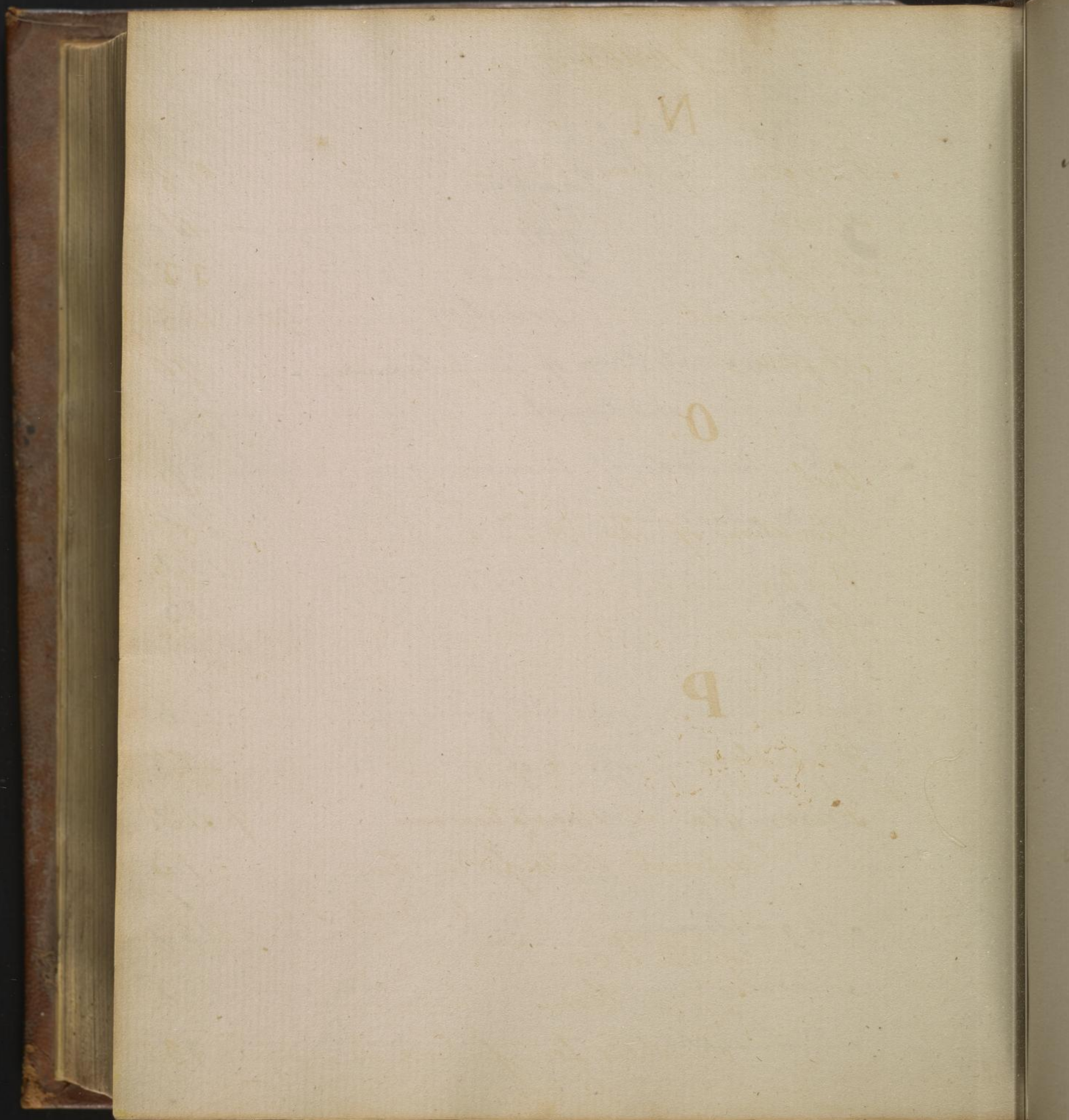
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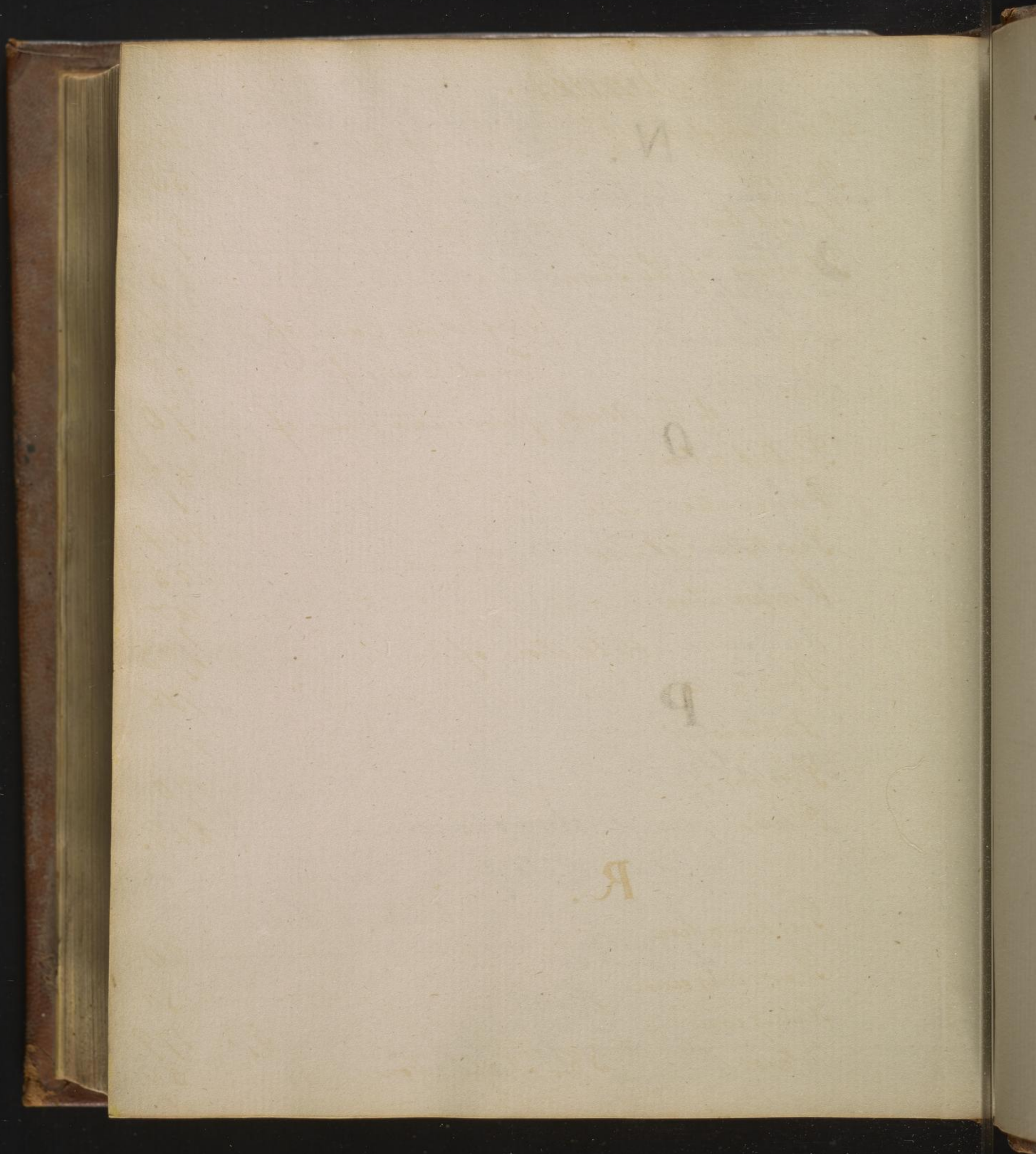
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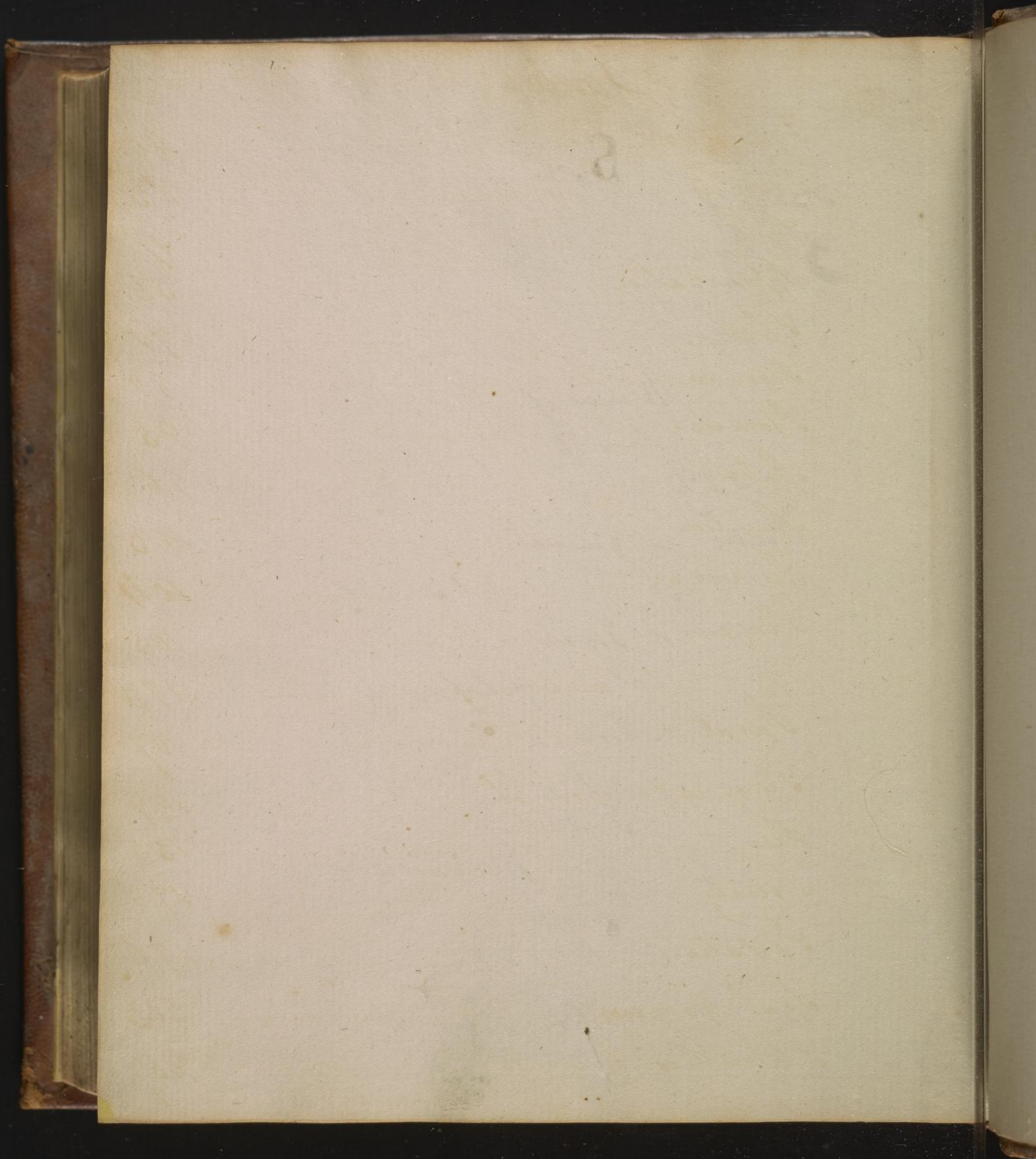
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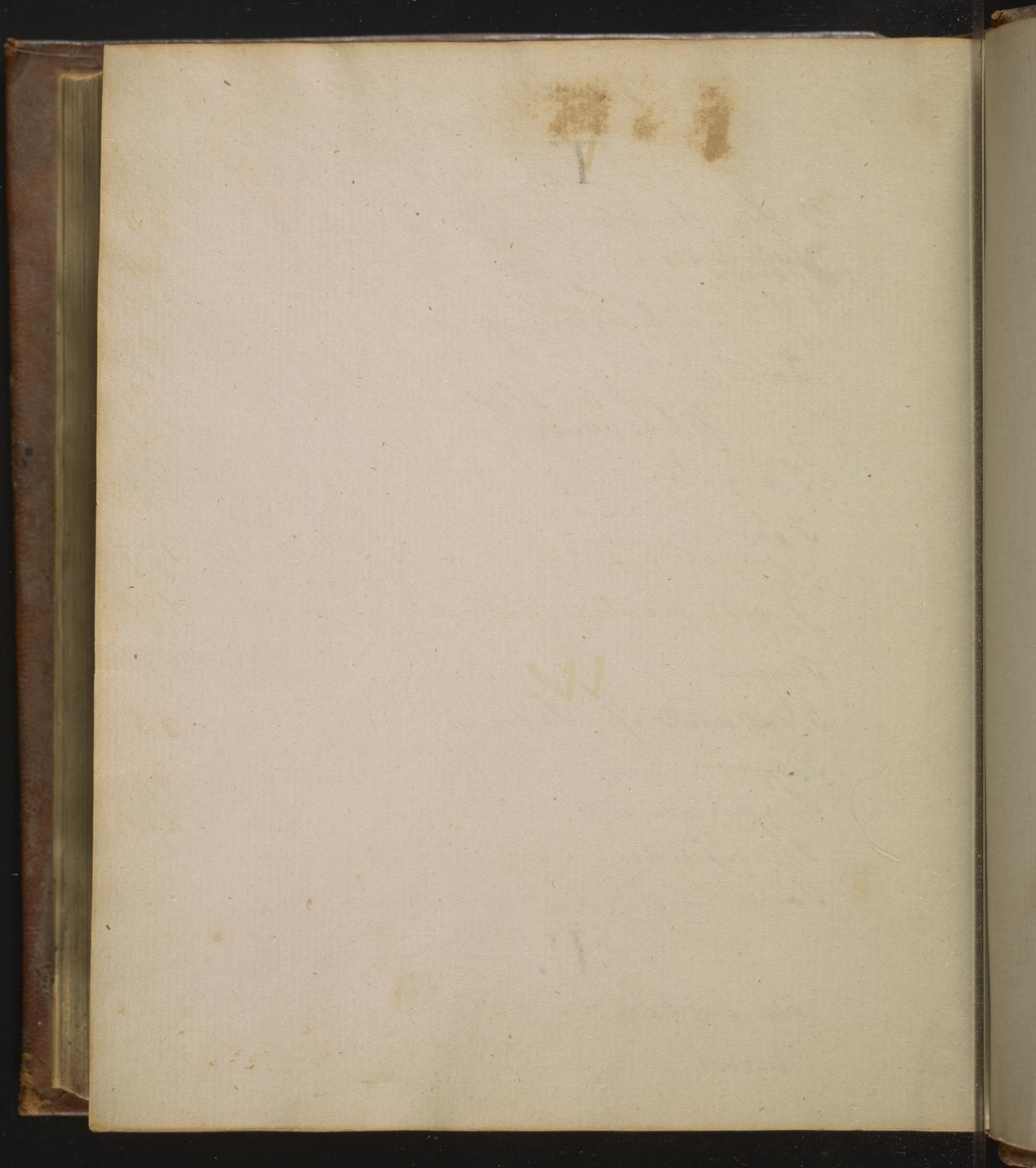
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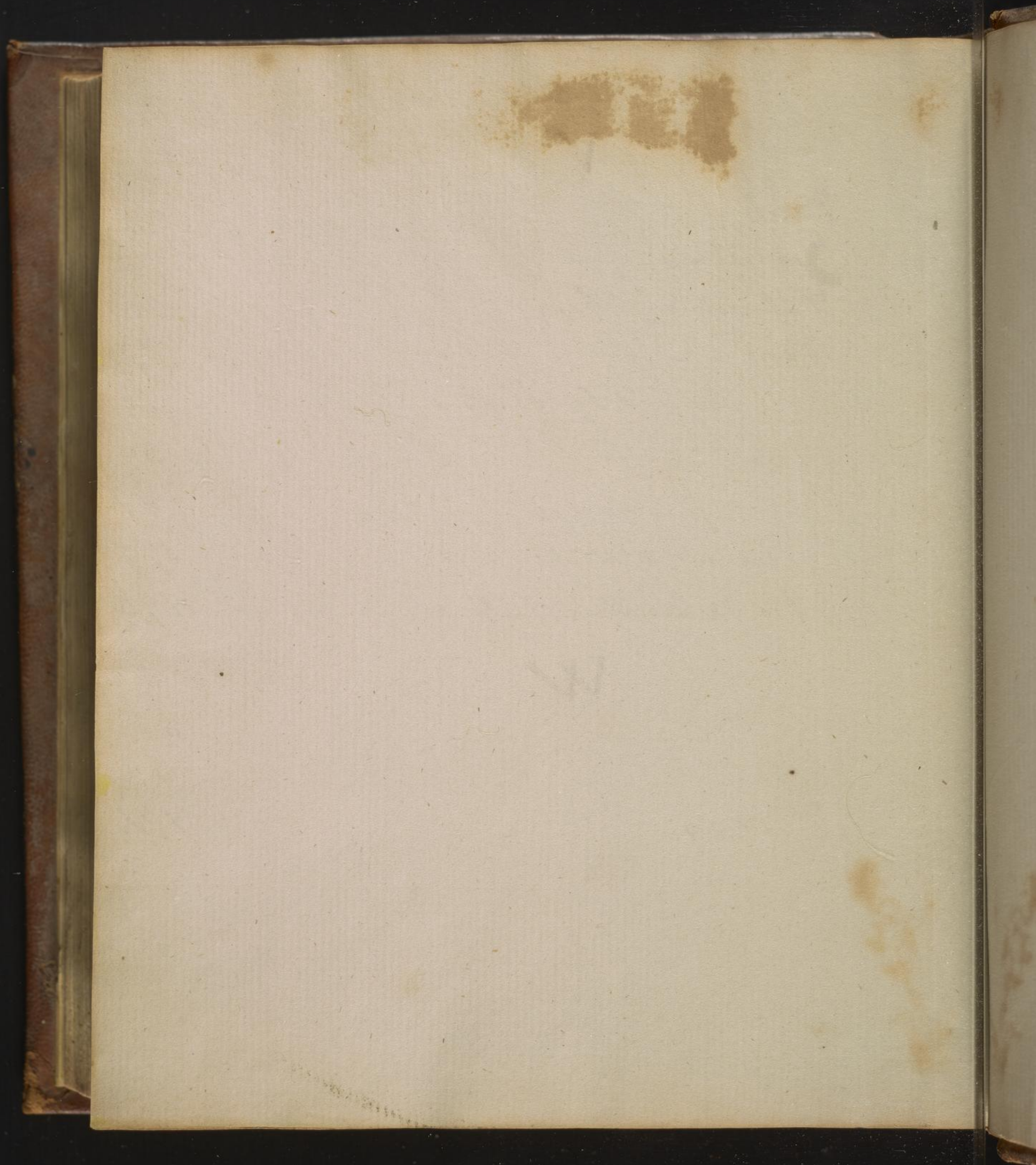
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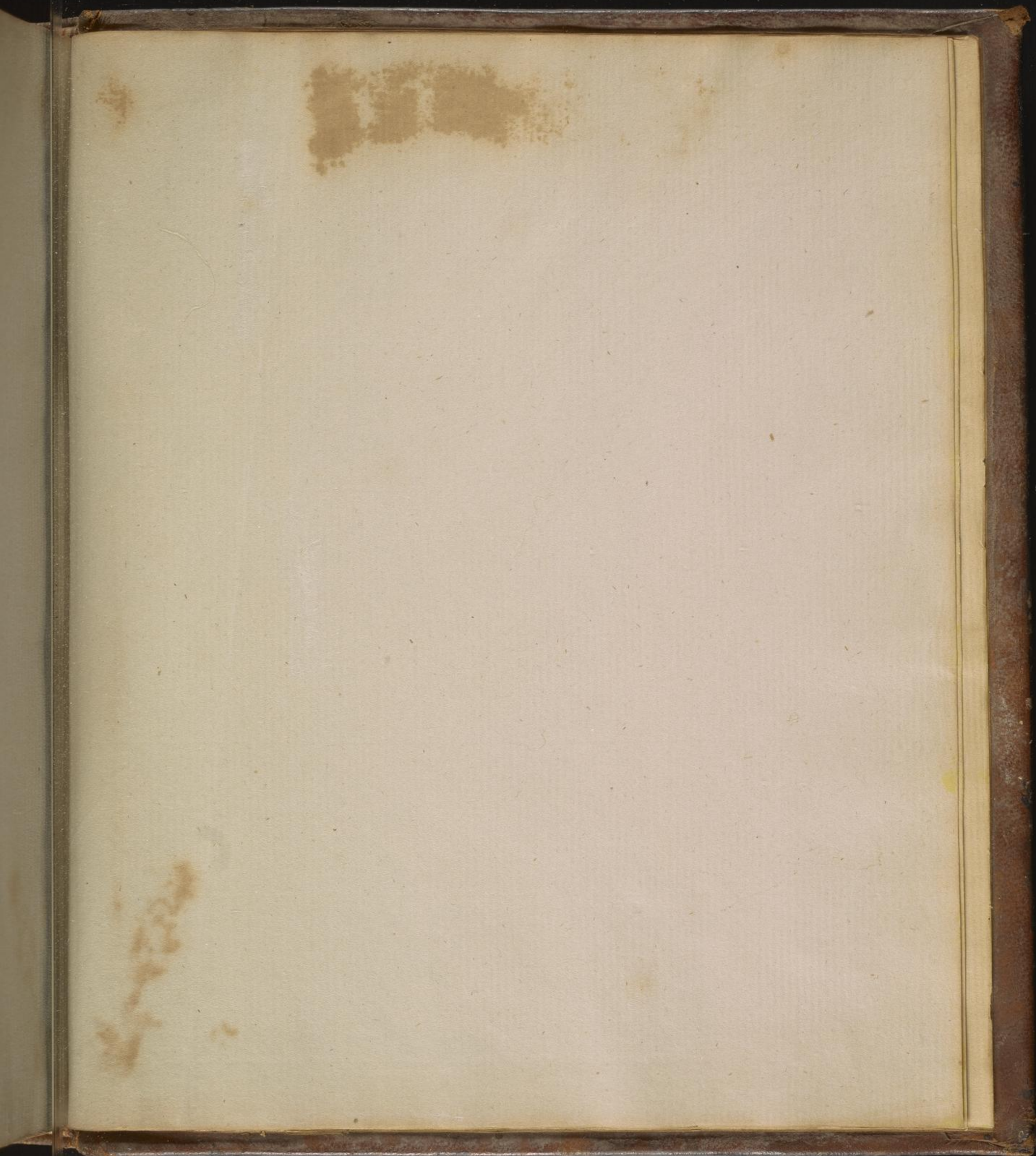
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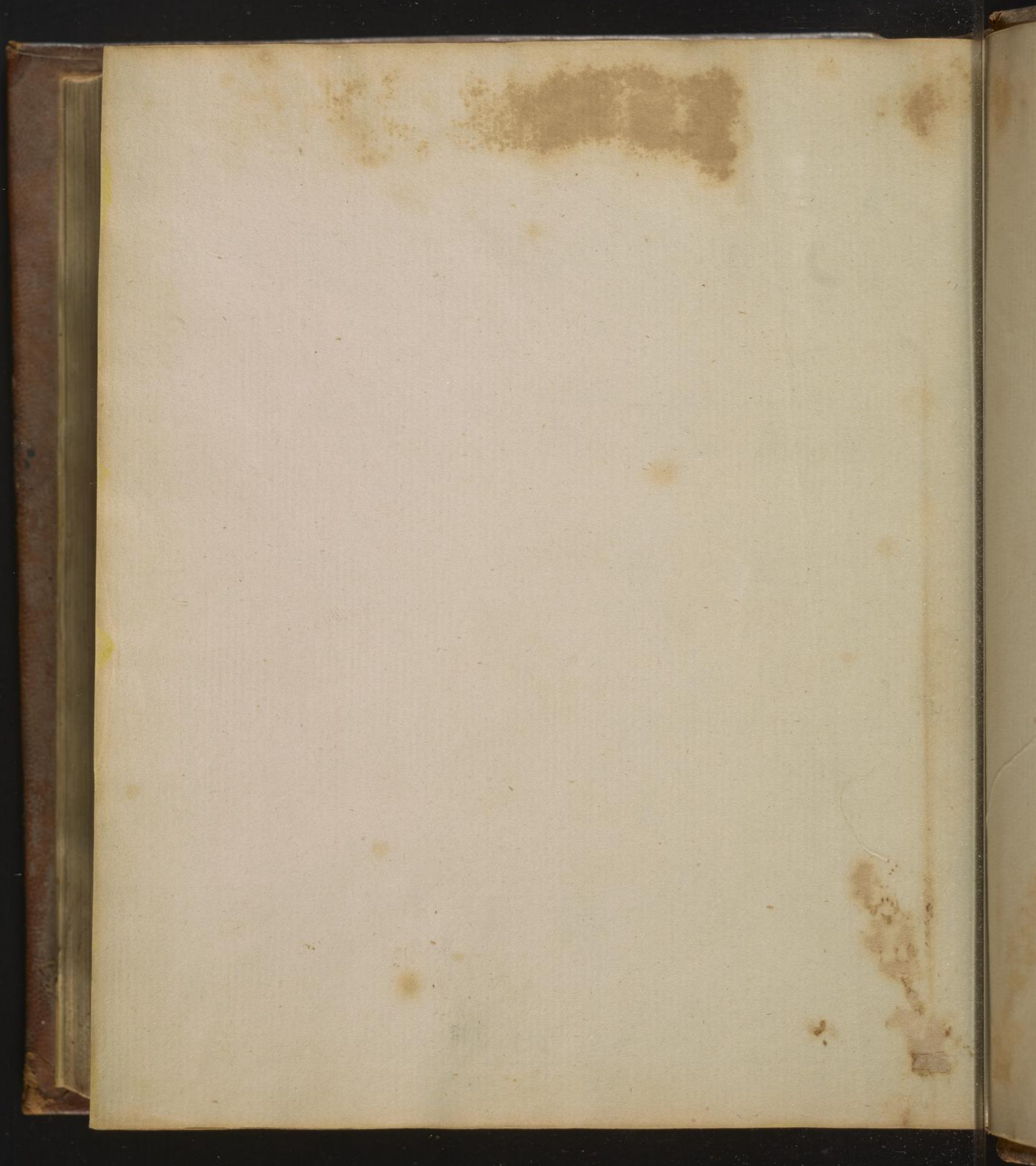
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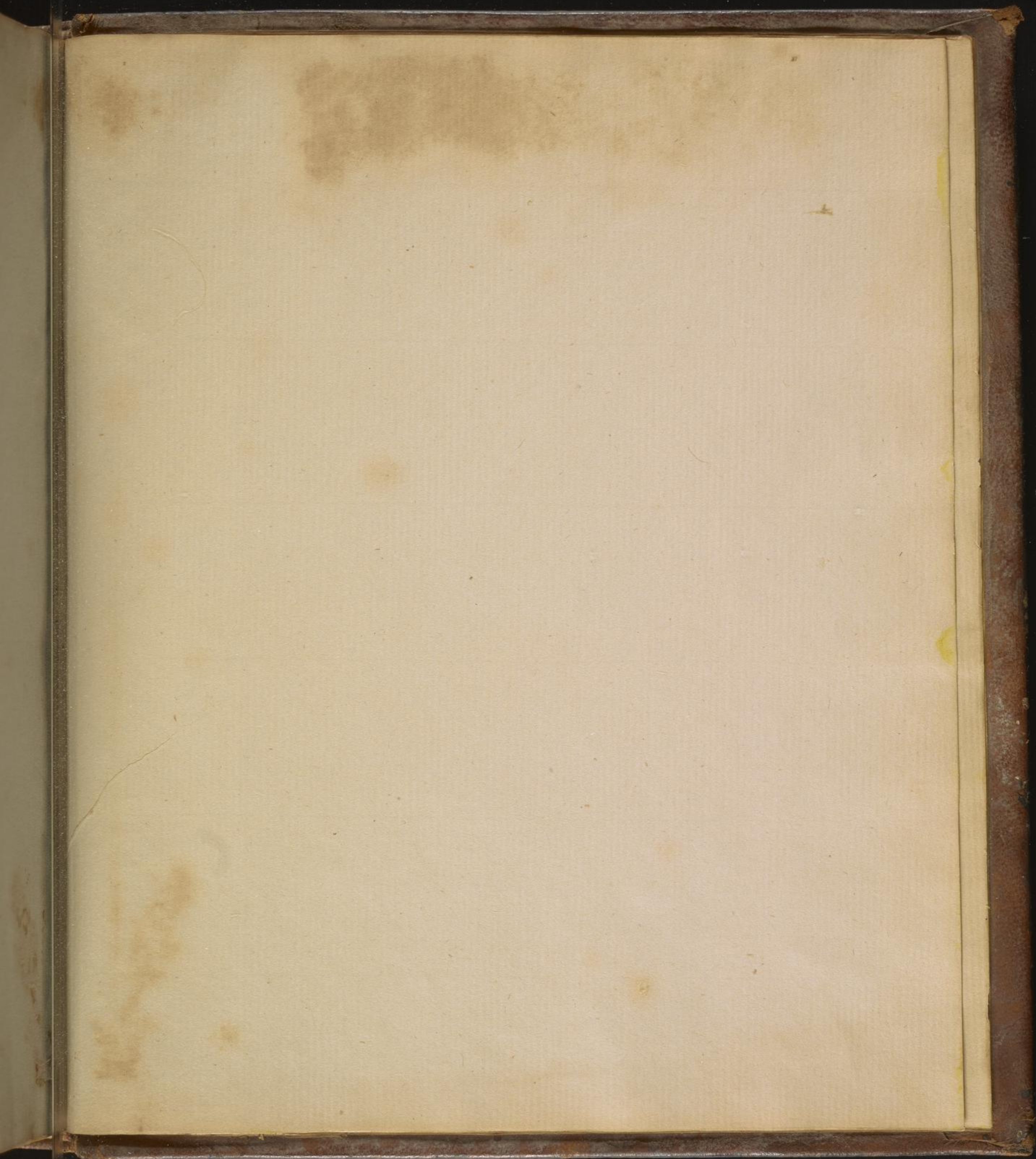
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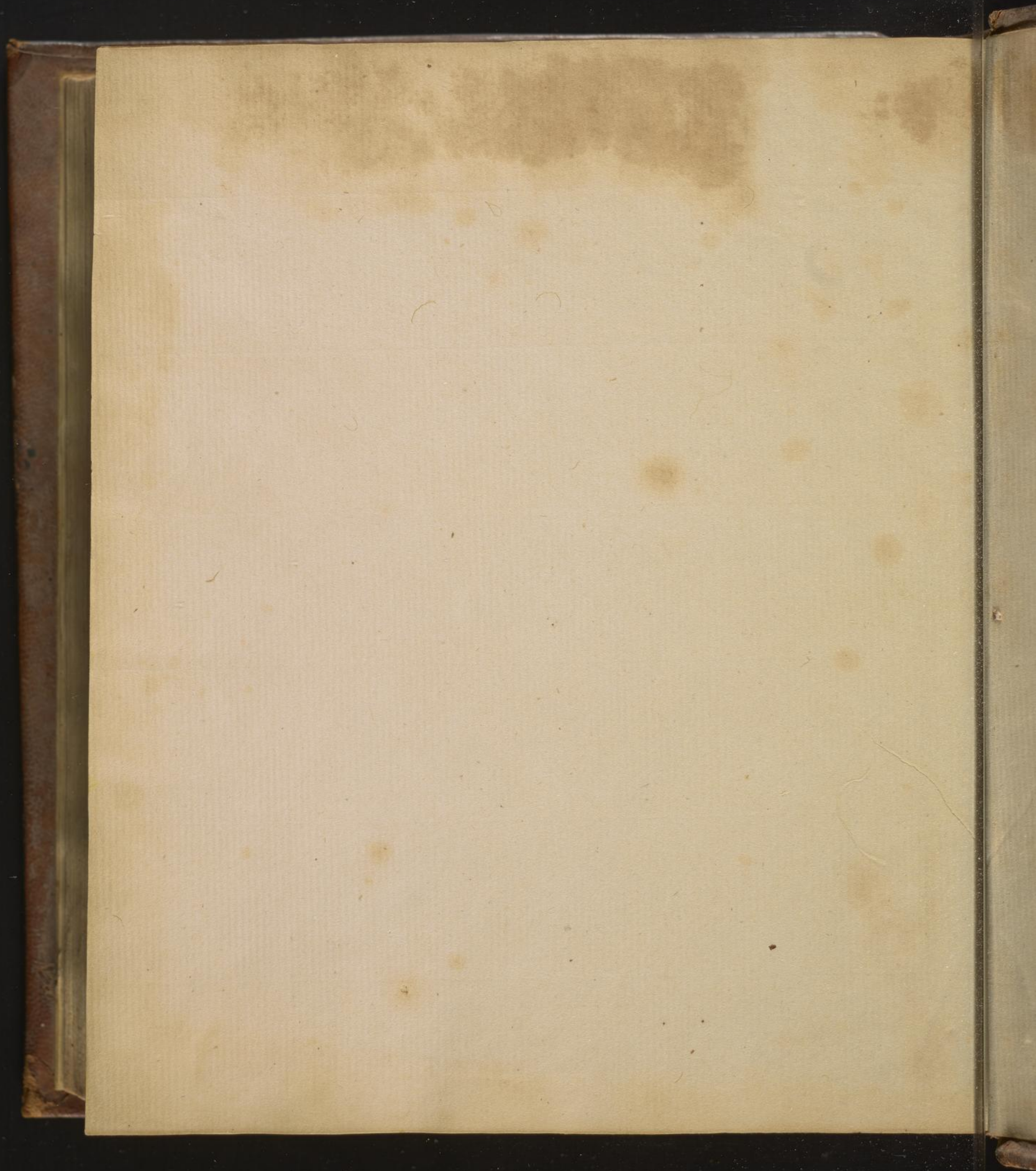
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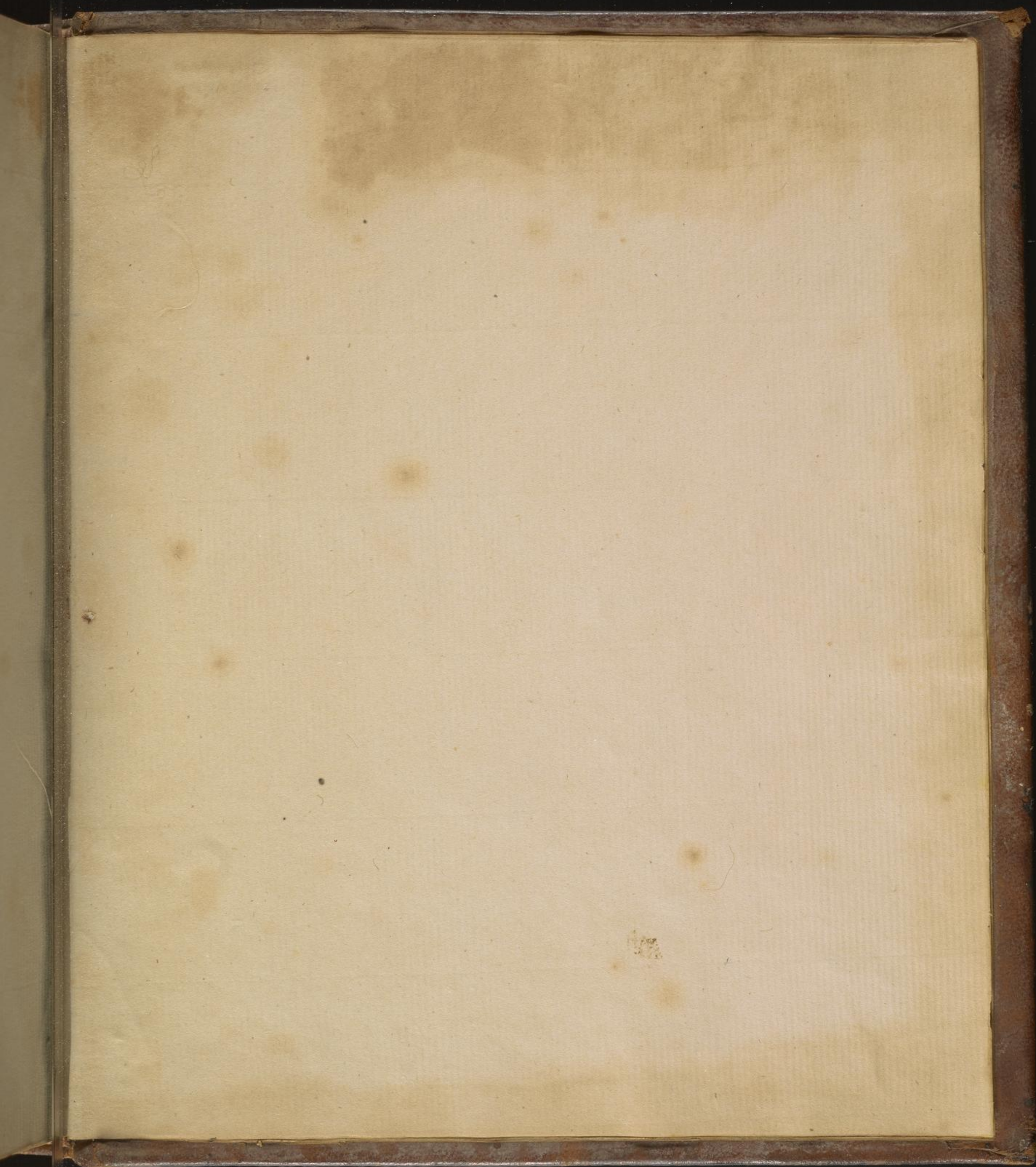


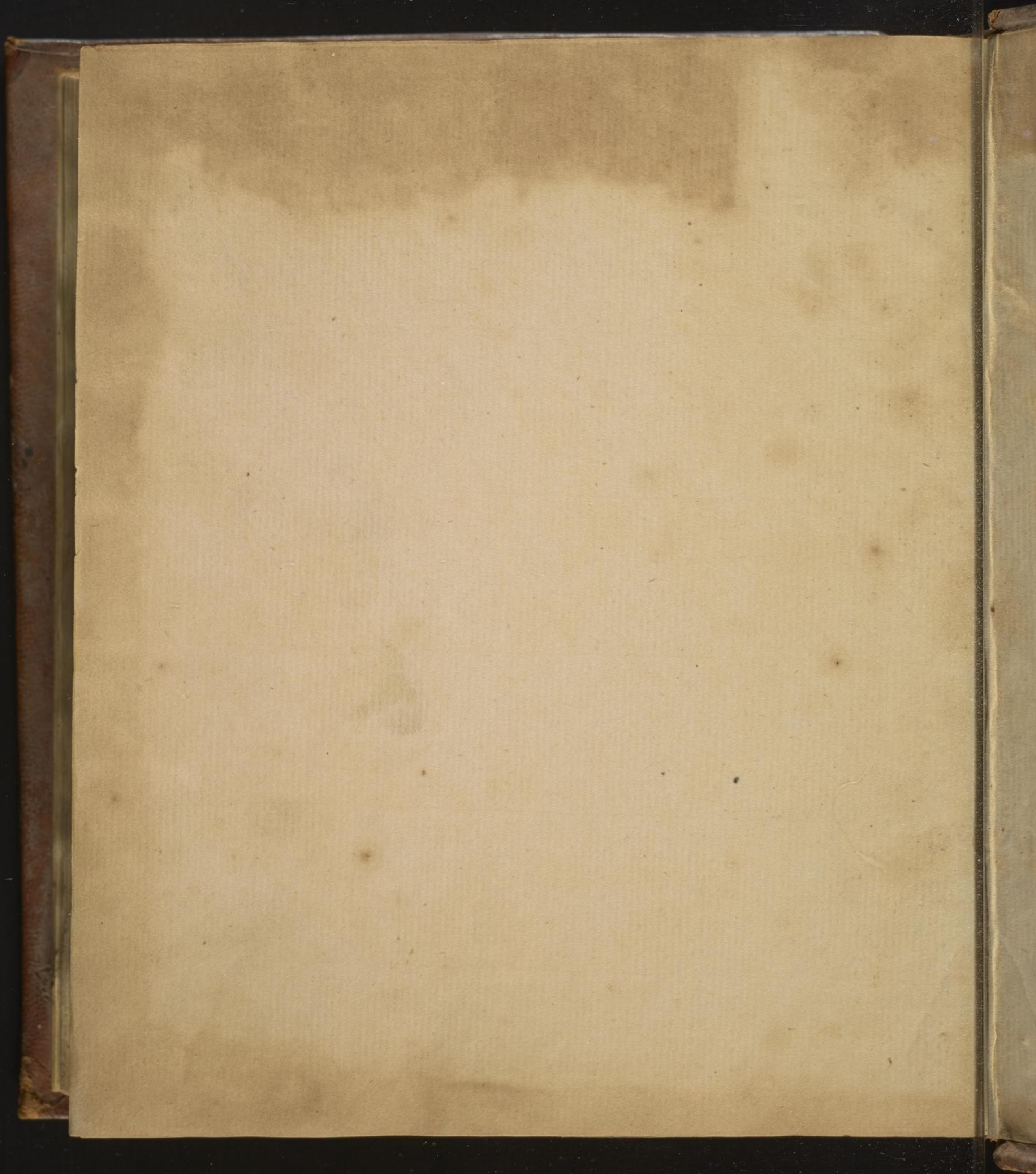


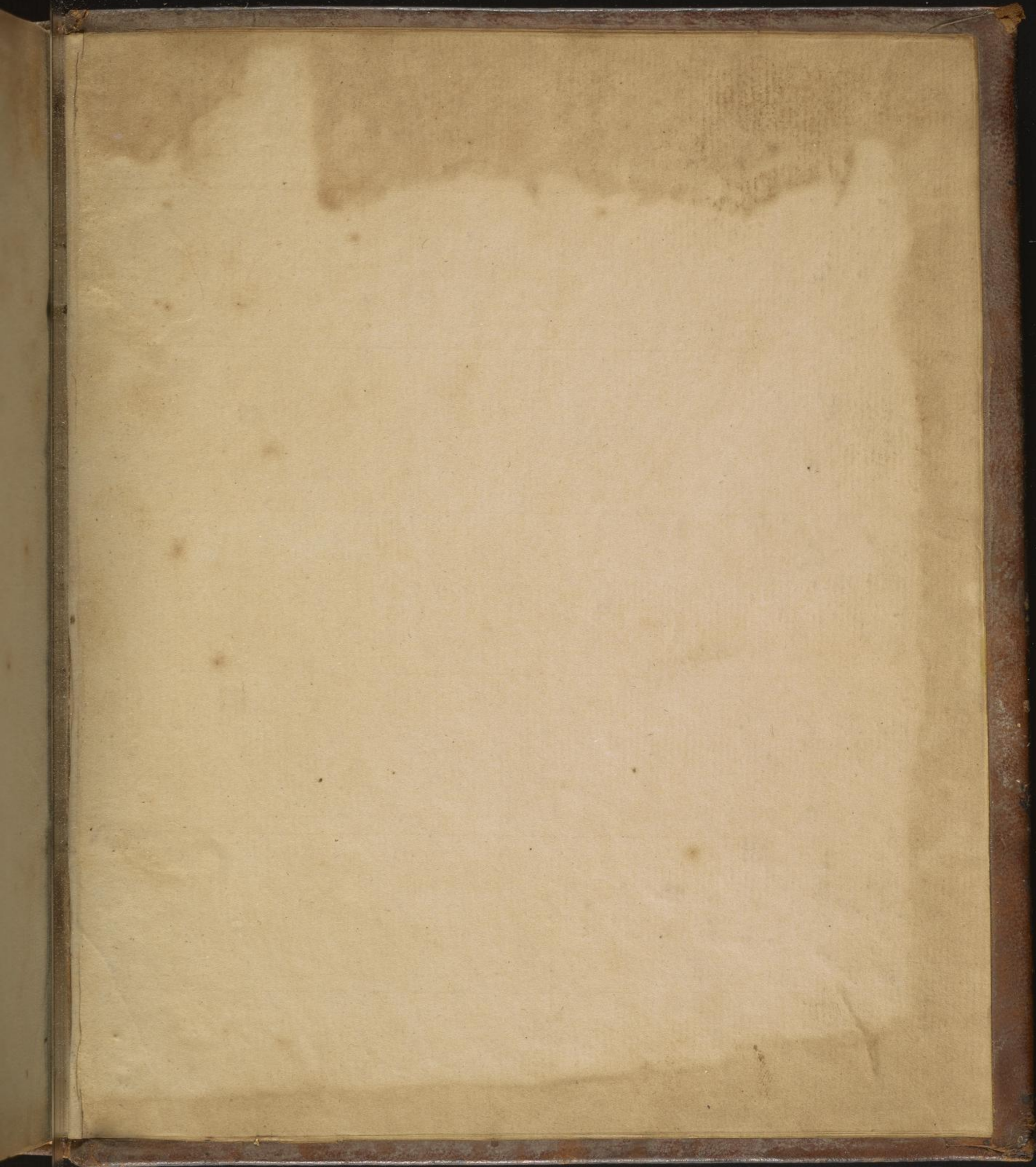


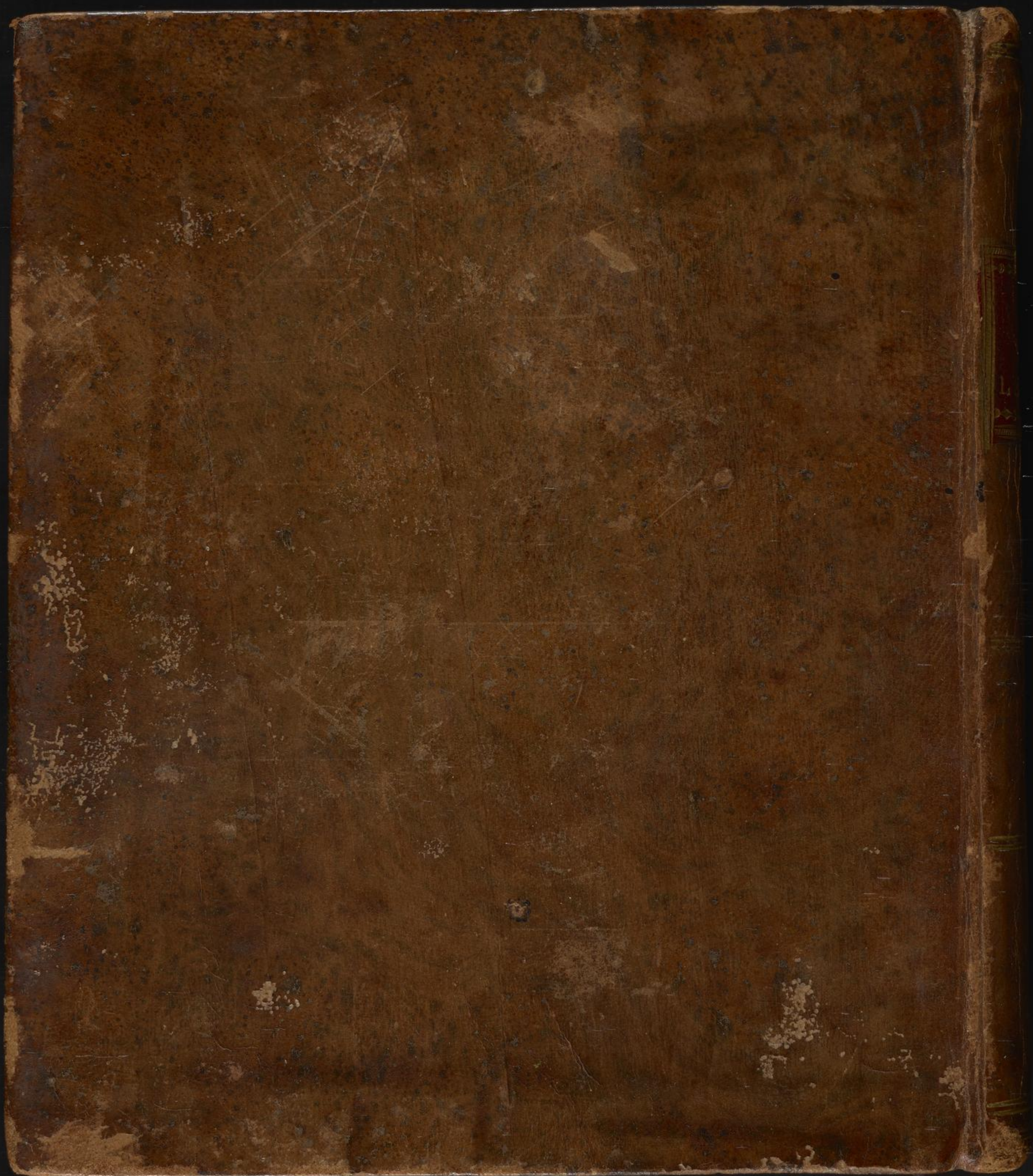












RUSH'S
LECTURES

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